NEW-YORK FARMER,
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ART. 66.—*On the Cultivation of the Grape.*

Our highly esteemed patron and friend, Dr. Samuel L. Mitchill, has favored us with the following letter, addressed to him by W. Elderton Allen, Esq. one of the members of the New-York Horticultural Society.

New-York, April 2, 1828.

My Dear Sir—When I casually asked you whether a few remarks on the Vine, arising from thirty-five or more years experience and observation in Europe, as an Amateur, might be worth submitting to our Society, I little expected the honor of your accompanying your opinion in the affirmative, with a request that I would also allow Mr. Fleet to publish my proposed communication for the benefit of the public.

The polite and kind attention, which, as an entire stranger, I have received at your hands during my residence in New-York—the pleasure which I have experienced in being permitted by you to share that fund of general knowledge and information which you so pre-eminently possess—added to the conviction of my having hitherto been an entirely useless member of the Society, to which you did me the honor of introducing me,—are such forcible motives for my using every endeavor to prove the estimation in which I hold your favors, that, however much I dislike making a public exhibition of what little I happen to know, I shall submit it to you with pleasure, and leave you to judge whether it is worth communicating farther.

I am fully aware, that while book instruction is mere surplusage to the practical horticulturist, it is also in a great degree useless to the inexperienced cultivator. The Vine, however, admits of so many different modes of cultivation—all equally good, as varieties adapted to local circumstances—that in embracing, as I intend, such as have come within my observation, I shall hope to amuse those of my readers who are wholly unacquainted with the subject, however worthless my communication may be to yourself and the learned and practical members of the Society, who, doubtless, possess as good, at least, and in all probability better information, than I do.

As the subject is extensive, and this is the season for planting, (though far advanced,) I shall limit my present letter to such introductory remarks as I consider of most immediate import. For, until the planting of the Vine has become more general than it now is, in the Northern States of the Union, its mode of cultivation is but a secondary object.

Before I proceed, I must state that I am far from inclined to take upon myself to recommend experiments of any kind. They too frequently disappoint the apparently best founded calculations, to induce any disinterested party to attempt, at the risk of the obloquy attendant on non-success, the introduction of any system, or matter, before it has undergone sufficient trial to establish its efficacy.

The experience which I profess, is the result of that at any rate harmless, if not commendable, kind of mania, for possessing a smattering, at least, of Horticulture, Agriculture, &c. &c. which is peculiar to so many of my fellow countrymen, whose fortunes enable them to gratify their taste in whatever way their inclinations lead them; and it may perhaps appear singular to those who advocate some particular system, as that alone which can succeed, that I should say I am not ashamed to admit, that after trying and seeing tried almost all the schemes of the last thirty-five years, relating to the Grape, and having been alternately an opposer of, and a convert to, several, (especially in France, lately,) I am so far from being now prejudiced in favor of any one in particular, that I have come to the conclusion, that in a good soil, natural or artificial, the Vine is of all the fruit-bearing tribe, the easiest of cultivation.

Secondly—It may almost be said to be exempt, by nature, from numerous diseases* to which fruit trees in general are liable, and which so frequently disappoint the best and most experienced cultivators of the long looked-for fruits of many years labor.

Thirdly—Under proper cultivation, and that of the simplest kind, as will be seen in the sequel of my explanations, it may be rendered perpetual for centuries in the same place, without the necessity of obtaining new plants.

Fourthly—It may be confidently asserted (contrary to the received opinion in this state,) that it is not liable to be affected by the severest cold of winter, nor the greatest heat of summer; in proof of which I subjoin a few notes of the extreme temperatures to which the extensive grape countries of Europe have been subjected during the last century, by which it will be seen that

* Mildew—the white insect, which we call in England American Blight, so common to old apple trees—the Green Fly—the Bug—Insects—all the species of Catterpillars &c. cannot be called "Diseases," as trees and crops of various kinds are liable to them in particular seasons, and especially the Pea called the Blue Prussian, if sown in Europe after midsummer.

the Vine there has been exposed to vicissitudes of cold and heat equal to any general average known here; and I have never heard of its destruction either in France or Germany, during the severest winter, although the Olive and the Fig have been partially annihilated, or greatly injured.

It will be said, perhaps, that the cold, in those parts of Europe, is seldom if ever accompanied by those piercing winds so prevalent in this country, and which Capt. Parry and other polar navigators have noticed as insupportable even by the human frame, in the more northern climates, producing violent head-aches, and various distressing effects on the face, while the most intense abstract cold, unattended by wind, did not prevent the enjoyment of their principal winter amusement, the chase.* As far as my own opinion extends, I see no reason why the Vine should be killed by these winds any more than the peach; nor shall I in the absence of better evidence than I have been able to collect, feel disposed to attribute either to frost or wind, the destruction of the few vines which have perished here and there, in this state, during winter. The *effect*, of which cold and wind are supposed to be the *cause*, may equally and far more reasonably be attributed to an imperfect ripening of the wood, which would be sufficient to produce a partial destruction of the ends, or even the whole, of certain shoots of the year, or to a forced and premature rising of the sap, followed by subsequent cold and wind, which might, with any fruit tree, as well as the vine, cause its entire destruction. These, however, are casualties of too partial a nature to cause any alarm, in respect of the general average success in the propagation of the grape as an ornament and luxury in the garden. Its success in vineyards also, in this state, on a larger scale, for *fruit*, I should little doubt, if planted on sites naturally protected from the north-west wind; or even in any moderately sheltered spot whatever, under a mode of planting and pruning which I will presently point out for its cultivation and protection.

With regard to its production, *in Wine*, either as to quantity or quality, or the sort of grape most likely to produce the best wine; and what resemblance to any known French or other wine, might be expected to be produced in this or any other of the United States, from any particular selected grape, I will not pretend to anticipate. A few facts within my own personal knowledge, will show that experience alone can decide these points.

* Foreign as it is to the growth of the grape in New-York, it may be curious to those who are not acquainted with the fact, to be told, that Capt. Parry and his crew, during the winter of 1819—when the cold was for five successive months frequently 72 degrees below freezing—killed different species of animals, wild duck, &c. to the surprising weight of 3766 lbs.—consisting of, 4 musk oxen, 24 rein-deer, 68 hares, 53 wild geese, 59 wild ducks, and 144 ptarmigans, (Tetrao lagopus.) Such is the capacity of the animal creation to resist cold.

The wine called Tinto Madeira, is from the Burgundy grape, planted at Madeira, where it was originally carried by the late British Admiral Lord Nelson. It is a strong wine, with a faint tint of a dark color, and resembling Madeira in flavor; while the Burgundy wine produced on its native soil in France, from the same grape, is, as you well know, of a full red, and as unlike Madeira as possible, either in taste, smell or otherwise. It is now about twenty-five years since I tasted the first of this wine, which came to England as a present only. It is now plentiful.

A Neapolitan wine, of which I do not now recollect the name, differing entirely from Madeira, and resembling the light Sicilian wines, of which I also well remember to have partaken at the table of one of the Admiral's friends within a few years of the same period, was the produce of the Madeira grape which Lord Nelson took over to Naples for the Queen.

A very coarse, rough, deep colored wine, the produce of some parts of Spain, is from what is called the Black Portugal Grape, planted there, where the wine made from it is fit only for making a mixture, of a nauseous, disagreeable kind, in resemblance of Port wine, so much and so justly esteemed, and which is made from the same grape grown in its native country.

The Constantia, or Cape Wine, as it is also called, from the Cape of Good Hope, is from a Frontignac or Black Muscat Grape, and far excels any of the French wines from that fruit. In different departments of France, the same species of Grape produces a distinct quality of wine, in vineyards at a short distance from each other. The same tract of country in which the sparkling and still Champaigns are made, which I need not say are white wines, produces, from the identical same sort of grape, a common red wine, called there "Vin ordinaire de Champagne."

In the Burgundy district, where the principally cultivated grape is black, and the general run of the wines red, a very superior Burgundy Champaign white,) has been made within the last 4 years, which is considered as far excelling, in richness and flavor, that which is the produce of the country from which the Champaign took its name.

In the same district the famous Burgundy called Clos Vougeot, the most esteemed of all, is the produce of a small inclosure called "Clos Vougeot," (Vougeot Inclosure;) while numerous inferior qualities, passing under the same name, are made from the immediately surrounding vineyards. The difference between the wines of Upper and Lower Burgundy, is still more striking. The same phenomena exist on the Upper and Lower Rhine, with the Hock and Rhenish wines. In the neighborhood of Bordeaux, it is the same with the different Clarets. In Portugal, it is so remarkable in the Port Wine, of which so many thousands of pipes are annually consumed in Great Britain, that the ques-

tion of the monopoly granted by the Portuguese government to the native Oporto merchants, of the exclusive privilege of purchasing in a particular district, has not only been considered of sufficient importance to be made the subject of a distinct article in favor of British resident merchants, in a treaty of commerce between the two countries, but the performance of the treaty, when made, was so obstinately refused by the Portuguese government, as to become the object of Parliamentary interference on the part of England.

That good wines, of various kinds, might to a certainty be produced in different parts of this state, and in some or all of the midland and southern states of the Union, there cannot be a question. A native grape, (Vitis Æstivalis,) has been cultivated for very many years, near St. Ferdinand, St. Louis, and St. Charles, on the Missouri, and the wine is said to be very good.

That many of the well-exposed heights in this and the adjoining states, especially those in south-east aspects, would in all probability produce a far better wine than the composition sold in the New-York market under the name of Imitation Port, there can be little or no doubt; and I see no reason why the semi-mountainous ranges of hills with which the greater part of the Union abounds, should not, in good aspects, and that at a period not far distant, produce as excellent wine as the rich Tokay, so much esteemed, of ancient date, or the long renowned Coté Roti, (or Roasted-side-of-the-Hill-Wine,) of the south of France.

To conclude these digressions, which would extend to a great length, were I to quote all the examples which the grape affords, of change of aspect and situation effecting a change in the quality of the wine, I will only add that the purplish-gooseberry-red Grape, which produces the finest Champaign, and also the black Burgundy grape, from which the Burgundy wine is made in the Department of that name, and its environs; and from which last mentioned species of grape an infinite number of excellent wines are made in different localities; are both grown in the neighborhood of Paris, and the wine produced from them in that quarter, is of a comparatively inferior quality, taken as a whole.

It is worthy a remark that with all these changes *in the wines*, which are attributable partly to soil and partly to the influence of southern hill exposure, well protected flats, and their reverse, the *grape, as a fruit*, is uniformly excellent in the gardens, and very good in the vineyards. All the varieties of the Muscat,* (Frontignan or Frontignac as they are also called,) retaining in the former their delicious perfume-like flavor throughout the country; while many individuals obtain, from local circumstances, full-bodied, well-flavored wines, which want nothing but a fashionable provincial name, to render them perfect.

To return to the question of cold: and with the view of anticipating, as far as may be, any objections which may be opposed to the theory assumed by me, that the vine is capable of resisting the frosts of this country, you should be informed, that whenever the *grape*, (not the *vine*,* though one is often mistaken for the other,) is injured by frost, in Europe, it is not by that of winter. It is generally the effect of an unusually advanced spring, accompanied with late night-frosts, after the fruit-bearing shoots are formed. The crop is also often reduced to a third or a quarter-crop, as the French term it, by what the common people call, being "gelé," and having in consequence "coulé," meaning that it has been frost-bitten or chilled, and (in the phrase of our English gardeners) "damped off."† This however, is most commonly the effect of cold heavy rains, in the early blooming of the vine, which injure the stamens of the flower, or beat off the farina before the office of fructification is performed; as is known to be the case with the strawberry and other fruits, in cold wet seasons.

Among the numerous agreeable, and to me most interesting and instructive, conversations which I have had the pleasure of holding with you, on the climate and vegetable and mineral productions of this country, I think I collected from you, in confirmation of what had struck me as the fact, that in this and other northern states of the Union, the seasons appear, as it were, to pass almost immediately from winter to summer, without that gradual introduction to the latter which Europeans call spring; the nights of which, preceded by warm days, reassume their winter temperature after vegetation is far advanced, and the days themselves also present frequent sudden changes in the wind, from a hot southerly in the morning, to a cold north-easterly in the afternoon; which in some seasons, in England mor especially, extend to the beginning and middle of June, and destroy the fruits. The winter in this country, on the contrary, seldom if ever re-appears till its due season, when once the warm weather has begun; the vine, therefore, from a comparison of this climate with that of Europe, may fairly be considered as having an equally good chance

* The Muscat has also the property of retaining its fine flavor in wine, even under change of soil and climate. The syrup and sugar made from it, cannot be wholly deprived of it by any known process; it was therefore excluded from among the other grape tribe, as unfit for sugar, when the French government, in 1808, and subsequently, encouraged grape, beet, and other sugars, as part of their exclusive system.

* This mistake is very natural when it is observed that the public prints, in speaking of the seasons, crops, &c. always use the word "Vine," as applicable to the expected *Fruit*, and not the tree or plant.

† A new theory, as to another cause of damping off, (or having "coulé,") not arising from frost or wet, has of late years been successfully introduced in France, and an instrument invented for cutting the bark in a particular way to prevent it. Of this I shall speak hereafter, if you should wish any further communications after reading this letter.

in winter, and a much better in summer, than it has there, as far as the prospect of surviving the cold in the former season, and producing its full crop of fruit in the latter, are in question.

When I look round New-York only, and observe the age of the fine vines which have survived every change of season—annually producing a fair crop of fruit under evident marks of a neglected culture—and when I see the vigorous growth of other better managed vines, which are to be found in the neighborhood, notwithstanding the extraordinary inclemency of the preceding winter of 1826–7; and when it is observed how few have sustained any material injury, I think the facts which I have endeavored to prove, of the vine's being able to resist the effects of cold under the lowest average temperature, are sufficiently established, not only to justify every reasonable exertion towards its propagation, but as holding out a far greater prospect of success, in the present enlightened state of this country, than the old world had reason to expect from the introduction of that now indispensable and most common necessary of life, wheat, from Asia Minor; or than England could ever look forward to, from the planting of the cherry by the Romans. Taking a nearer view, and turning to the New-York market, who would have believed but a very few years ago, that the Cape Brocoli, always a very dear and highly esteemed vegetable in London, and to this moment but little introduced in France, could have attained the perfection which it has?—a perfection, surpassing the common run of that grown in England.

I shall now proceed to submit to you such methods of planting the vine, as immediately strike me as the best for gardens and small enclosures, or even yards, if they are not very much confined; leaving the less pressing subject of vineyard planting, for some other opportunity.

My first object will be that of laying down such simple rules as will be readily complied with, and at the same time produce the earliest possible enjoyment of the fruit. I have observed, in many places, a great preparation of immense trellis work for a *single vine*; which, with the view of covering the proposed fabric in a time far without the bounds of possibility, is spoiled the first year of its taking to the ground, or at least weakened for many years, by leaving its primitive leading shoots too long, in the endeavor to reach the top of the frame and immediately begin the desired work of covering it; accompanied at the same time by the too generally received notion that, because there is a great length of wood, there must be an equally abundant produce of fruit.

A *single vine*, at the end of 5 years, perhaps, but it will probably be 8 or 10, will cover an extensive awning of trellis work, and of itself, under judicious management, be sufficient for the place. Very little fruit, however, could be expected for several, not to say many, years; *when, by planting from* 8 *to* 10 *vines, instead of one*, at a distance of about two feet from each other, and adopting a mode of pruning which I will on some future occasion point out to you, not only would a very fair produce in grapes be obtained in about the third year, (a few, perhaps, the second,) but an opportunity would be afforded of choosing the best vine, or two or three vines, from among the number, for effectually and speedily covering the trellis; while those kept short, might still be left, and continue to produce fruit abundantly, in addition to the vines on the top trellis.

The vine, again, is too apt to be considered, by persons to whom its culture is a novelty, as in the nature of, or in the same light with, the peach, and that an equally closely branched tree is to be obtained; and this occasions their spoiling it by leaving the shoots long, like peach branches, in the expectation of fruit at each bud.

Without going further into these subjects, I will proceed to what I consider the best mode of planting the sort of grape most likely to insure success, though many others may be equally good, and perhaps turn out better for this climate on trial.

As to the planting, it is needless to say that if the soil is poor, it should be properly dug two spit deep, (as the gardeners call it) and manured with *well rotted Cow-dung*, or Pig-dung, in preference to any other, but any will do *if well rotted*. If the soil is very sandy, a mixture or compost of half loam and half *rotted dung* should be well dug in, with the natural sandy soil, all which is too well understood to need any detail.

The Vine to be planted should be cut to two eyes at the utmost, but one good one is preferable if the joints are long. The cut to be always made about half an inch above the eye, to which you decide on cutting.

If a row of Vines are to be planted near paling, a house, barn, wall, or the like, or for a long trellis, or otherwise, a trench should be opened of such a depth as that the upper eye of the plant, from which the upper shoot is to arise, should stand about six inches below the level of the general bed or soil in which the trench is cut. This is very essential towards providing against that common evil which so constantly attends vines in their first year's planting, viz: that of the new shoots being considerably thicker and more luxuriant in growth, than the old, and sometimes badly grown wood of the preceding year, from which they spring. This contracted part of the old stock will frequently check, and sometimes wholly impede, the healthy quick growth of the vine. The new shoot from this their stock, springing from below the natural surface of the general garden; by being thus planted that depth within the trench, enables you, by filling in the trench to the level of the garden, to cover the old wood

above the eye from which the new shoot has sprung, and which new shoot immediately sends forth roots and remedies the defect.

Vines already growing in pots, when used as plants, should always be planted so as to let the new wood strike roots independent of the old stock, which can generally be done without planting too deep; which must always be avoided, and easily can, by lateral or horizontal instead of perpendicular planting; which I shall explain.

All vines when planted, should be laid, as to their roots, along the bottom of the trench, or hole, (if only one is planted and a hole made,) and the roots need not be covered more than six inches deep; for the shooting eye being left, as I have directed, six inches below the common surface or level of the garden, the filling up of the trench this other six inches, after the new shoot is sufficiently grown, leaves them deep enough in theend; and as the roots seldom tap, but generally spread laterally for several years at least, and like to be within reach of the warmth of the sun, deep planting is not only unnatural, but very injurious.

[We intended to have introduced the whole of this letter, from its appearing to us to embrace a more perfect chain of information on the subject of the Vine, than we had before seen assembled in one view. But the length of it obliges us to reserve the remainder for our next number.—EDITOR.]

[From Loudon's Gardener's Magazine.]

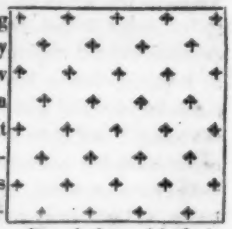
ART. 67.—*An Orchard in miniature; or, the culture of Appe Trees as dwarf standards, after the manner of gooseberry bushes.*

SIR—Observing, in your magazine for September, Mr. Harrison's method of growing apples against a wall, allow me to obtrude my simple mode of growing them in open quarters, upon dwarf trees, which I have followed about seven years, the last three of which have successively strengthened my conviction of its utility.

By planting the proper sorts, apples may be grown in as small a space of ground as gooseberries; and a small or large square, according to the size of families, appropriated to apples, will grow every year enough to supply their wants. I am not vain enough to think that I am alone in growing them in this way, as I should think horticultural economy would prompt many besides myself to gratify their eyes, their pockets, and their appetites, in so easy a way.

Like most practicalists, I should, perhaps, find it much easier to *tell* and *show* than to write what I mean; but "I will do my best," as the author of Ivanhoe makes Hubert say; for my grandfather, though he did not draw a bow, drew a knife.

I have my ground, a strong clay, trenched two feet in December; as soon as it is settled, say a fortnight after trenching, taking advantage of a frosty morning, the holes are opened and left for the frost to mellow. February is the best month for planting on heavy ground; by that time the earth taken from the holes will be in a fine pulverized state. The holes need not be very large—two feet over, and one and a half feet deep, will be enough. With some rich loose soils there will be no occasion for trenching; but then the holes must be larger, say three feet over and two feet deep. The plants must be six feet apart every way. I arrange mine in quincunx. See plate.



With a six foot measuring stick this is done with scarcely any trouble. I do not know any sight more pleasing to a domestic mind (for what fruit contributes more to our comfort than the apple? than this orchard in miniature, when covered with bloom, and again when laden with fruit, as they seldom miss bearing in abundance.

This plan will not extend to the strong growing sorts, as they are not easily kept within bounds; but the following six will amply repay the trouble and trifling expense of planting. I have placed them in the order of their ripening: mank's codlin, hawthornden, kerry pippin, downton pippin, christie's pippin, and the old golden pippin; to which may be added coe's golden drop, a most excellent late table apple. The trees must be chosen with stems not exceeding one foot six inches. In September I generally look over the trees, take off superfluous wood, and shorten the long shoots; this strengthens the bloom buds which are formed abundantly upon the young wood of all the sorts named; of course, in doing this, an eye must be had to the formation of the trees, which ought to be gradually brought into a handsome round bush. For the first years, a row of strawberries may be grown between each row of apples, or any other dwarf light crop; but strawberries are most in keeping, a word which, in every gardening operation, ought never to be lost sight of. Let me add, they ought to be worked on paradise stocks, or the small wild crab, (mine are on the last,) not by any means on the free stock raised from apple pips, the very worst stock that can be used.

Now this cacoethes scribendi is upon me, (it is a wet day,) allow me a little more space, merely to give you one of the best receipts for keeping hares and rabbits from apple trees. I write from experience; for, till I used it, I had annually a great many trees destroyed in spite of every precaution. Take the commonest train oil and hog's lard, (if stale it can be bought cheaper,) mix them well, till they are of the consistence of thick paste, which the mixture will much resemble, and apply it rather sparingly with a painter's brush. This

will effectually keep off those destructive vermin, and not injure the trees, as the lard neutralizes the pernicious effects of the oil.

[From the American Farmer.]

ART. 68.—*Hemp and Flax—comparative merits of water rotting, and dressing without rotting.*

MR. SKINNER,

SIR—A subscriber to your paper in Nelson county, Virginia, has asked the comparative merits and demerits of water-rotted hemp, and that which has been dressed without rotting. I cannot answer this inquiry as it regards hemp, but as flax is an article of nearly as much importance, and as its character is very much the same, I will state to you the difficulties which have occurred in the manufacture of unrotted flax, which will, I have no doubt, in a great measure refer also to hemp, at least so as to enable your subscriber to draw a conclusion unfavorable. I have been some time desirous of making this statement, because many ingenious men are engaged in inventing machinery to break flax without rotting, before ascertaining what is to be done with it after this great business has been accomplished.

There never was, to my mind, any difficulty in breaking flax by machinery, rotted or not; but my experience in the manufacture justifies me in hazarding the opinion, that flax not rotted, can never be advantageously made use of, unless it be subsequently steamed, or undergo some other process to give it that softness and pliability which water-rotted flax always possesses, and without which it cannot be spun economically by machinery; and these after operations will always be more expensive than the simplest of all simple processes—water rotting.

An ingenious gentleman invented a machine for breaking flax without rotting, and sent me a quantity of flax prepared for experiment. The following is extracted from the letter I wrote him, after I had it manufactured into cloth.

100 lbs. of raw flax, hackled on a rougher and cleaner, rendered of cleaned flax, .	30 *lbs.*
Total loss in waste, ...	12
Balance in tow, ...	58
	100

Now contrast this with water-rotted Irish:

100 lbs. of Armagh flax, (a small yield,) clean flax, ...	55
Loss in actual waste, ...	5
Tow, ...	40
	100 *lbs.*

Thus, in the process of hackling, the machine flax lost 12 per cent; and in spinning 750 lbs. I weighed in 657 lbs. of yarn, losing in actual waste 93 lbs. nearly 13 per cent more—making together 25 per cent; while the Irish flax loses in those operations about 14 per cent. The tow of water-rotted flax can be as easily manufactured as the flax—and the tow of the machine flax can be made no use of whatever in our mills. From 2500 lbs. of machine flax, costing $250, I received 657 lbs. of yarn, which cost me 38 cents per lb. exclusive of the cost of labor in manufacturing.

To enable you to judge of the possibility of spinning and weaving this flax, I send you a sample of the yarn and the cloths woven therefrom; and although I took some pains to soften by letting it stand over the race-way to imbibe moisture, you will find on examination that it is so harsh as to render it impossible for the weaver to bring it together; which will account to you for the slack appearance of the cloth.

In the construction of our machinery, we are compelled to compensate for the want of adhesion and elasticity in the fibres of water-rotted hemp and flax; but the ingenuity of man has not yet provided for spinning the fibres of a hickory tree, to which I must assimilate the machine flax; the tow therefrom breaks short off in the teeth of the card, to such a degree as to cover the floor, without having the appearance of being either elongated or reduced in diameter.

My experiments on flax not rotted, dew rotted and water-rotted, for manufacturing into cloth, confirm those made by Mr. N. Goodsell, of New-York, as reported by him in the 5th volume of your "Farmer;" and I am satisfied myself that the cheapest and best method is to water-rot flax and hemp, both for the manufacturer and the consumer. I recommend Mr. Goodsell's communication to your readers, and especially to those interested in the growth or manufacture of flax.

I have been a manufacturer of flax for many years, on a very extensive scale, and would most gladly second the exertions of any farmer in cultivating it, in any way that I could be thought useful; but with all my endeavors, and those of agricultural societies to back me, I have not in seven years been able to procure one ton of native water-rotted flax, although the difference in the price which I offer between this and dew-rotted flax is 33 1-2 per cent. American dew-rotted flax is now selling in our neighborhood at 8 cents per pound. Pull the same flax when the bloom falls and the bolls are forming, and water rot, it is then worth 11 to 12 cents per lb. besides that, the crop will weigh from 25 to 30 per cent. more per acre. This difference in price and weight ought alone, without any protecting duties, to afford sufficient encouragement to any grower of flax, and will be ample, so long as the manufacturer is sustained to afford him a market; for without the demand created by our establishments, the consump-

tion must be very limited, not certainly sufficiently extensive to make any effort in producing it, much less in improving the quality.

A FLAX SPINNER.

[For the New-York Farmer and Horticultural Repository.]

ART. 69.—*An abstract of a very important book, lately published in Paris, on the subject of Horses—communicated by* DR. SAMUEL L. MITCHILL, *to the Editor.*

SIR—Having lately perused the report made to the police of that city, under the title of "*Researches and considerations, on the removal and employment of dead horses,*" including the sanitary disposal and economical use of other defunct animals, I thought it worth the while to make a brief abstract of this very curious and highly interesting performance.

It was called for by the vigilant Prefect and Counsellor of State, M. DELAVAU, and executed by a special commission, consisting of Messrs. D'ARCET, HUZARD, ROBAULT, DAMOISEAU, PARTON, and PARENT-DUCHATELET, some of the best geniuses that could be found for the undertaking. It came forth from the press during 1827, in a quarto of 124 pages; illustrated by five large lithographic plates, exhibiting the perspective and architectural views of an establishment for cutting up and disposing of such carcases and their parts.

The work being rare in this country, and yet extant, as far as I understand, only in the original French, I supposed a sketch of its contents might be well worthy of a place in your journal, inasmuch as it treats of turning to advantage and profit the bodies of some of the most valuable of domesticated animals, which after their labor and service are ended, are, among us, too frequently suffered to degenerate to nuisance or to depreciate to a total loss.

It may be proper to give an outline of the history of this business. In the arrangement and economy of human society, great numbers of horses are brought to cities for the cart, the coach, and the saddle; and sooner or later, the principal part of them die in and near the places of their employment. If left to undergo spontaneous decomposition, they shortly become masses of putridity and stench, infecting the air to a considerable distance. For preserving the public health and comfort, it was found necessary to remove them to some place where they would not be an annoyance. As the owners of the poor creatures, when they became sick, decrepid and unable to work, frequently turned them out on the commons or in the streets to starve and die, it was often impossible to discover the original owners of this abandoned property. And where this could be done, the legal process for compelling them to remove the carrion, could not in many cases be conveniently executed, and in some not at all. In the course of events, the removal of such objects became a branch of the police, and dead horses, like other filthy accmulations, were removed by public authority and at public expense. It very soon appeared, however, that the articles themselves, might under a proper system of economy, be made to pay for the cost, and to produce a notable surplusage. Advantage was taken of the discovery, by several indviduals and companies, to establish places where horses found dead might be cut up, and abandoned ones slaughtered for the same purpose. In several instances, they became so noxious and offensive, that the owners were ordered to discontinue their work, or, if they chose to carry it on, to do it in some retired and unpeopled spot. The more modern of these proceedings date from 1701. At length these butchering and cutting operations seem to have centered in the extensive *escariage* as they call it,) of Montfaugon. The main intention of the commissioners, was to make full inquiry into the condition of this, grown now to be a vast nuisance. The facts developed by such an investigation, would of course apply to all the smaller ones, in whatever part of the city they might be. After going through an elaborate history of *escariage*, for the last four-hundred years, and a recital of the various and unsuccessful efforts of the municipal authority to regulate it, they conclude that the work is carried on with so much disorder and barbarity, as to require a total abolition of the present system, and a renewal of it from the elements. It is admitted, that such establishments, under due government, are proper; and the business, disgusting and revolting as it is, presents chances to active, able and intelligent speculators, to make fortunes.

The information contained in this performance is singularly curious. It is calculated from the most correct sources, that the number of horses subjected to the *escariage* or cutting up, in two of these slaughter houses, amounts to thirty-five per day, which makes the aggregate, twelve thousand seven hundred and seventy-five in a single year! Of these about one fourth part, or three thousand one hundred and ninety-four, are those which have perished in Paris; and the rest, or nine thousand five hundred and eighty-one, consist of the horses, worn out with labor, exhausted by disease, or enfeebled by old age, that are sold by their owners for a price varying from 5 to 15 francs, and carried here by their purchasers to be slaughtered and disposed of. The chapter which contains the account of the unfeeling cruelty with which they are treated from the time of their introduction to the bloody abode until they are killed, is almost too affecting to be read with dry eyes.

There are four methods of taking their lives. One is, *to blow air into their veins;* but as this is a long and

difficult operation, and does not always succeed, it is not much practised; but done now and then to show the executioner's skill. A second is, to *puncture the spinal marrow*; but the fall of the horse is so instantaneous, as often to put the killer in danger of being injured by his weight; it is therefore from prudential considerations seldom performed. It is, however, done once in a while, to gratify the curious. A third method is, to *open the great blood vessels by a stab with a knife*. This is the usual mode of killing; it is performed by stretching the skin of the breast a little, by making the horse move backward his right fore leg, and in this position giving a thrust with a knife 8 or 10 inches long, in the direction of the arch of the aorta, which is almost always completely divided; consequently there is an abundant flow of blood. The animal staggers, falls, and expires in a few minutes, amidst the agitations and convulsions peculiar to this kind of death. The fourth mode is to *knock them on the head with a hard and heavy body*. The eyes are usually covered with a bandage, and no halter used for tying. Sometimes it has happened that the sight has not been entirely obstructed; the horse has started at the threatened stroke, has fallen in an inconvenient spot, and even become furious, and caused accidents.

The different parts of the dead horse are destined to different uses.

1. *The Hair.* The mane is cut off, and the tail shorn of its hair before the creature is killed. This, however, does not make an article of great account, because, if they are wasted by old age or accidents, the owners mostly shear them off before the sale. The hair of these parts at the escariage, is rarely long enough for the manufacture of cloths and stuffs.

2. *The Skin*, is sold fresh to the tanners, for conversion into leather. A hide is worth ordinarily nine and a half francs; though the price is subject to considerable variations.

3. *The Blood.* Although bullock's blood has tripled its value within a few years, that of the horse is undervalued, and not brought into much use. The greater part of it is therefore at present nastiness, incumbrance and loss. A horse does not afford near as much blood as an ox.

4. *The muscular Flesh.* When a horse is fat and has died healthy, the butchers eat it with good appetite. The gentlemen of the commission declare they have eaten it, that it is good and savory, and that they have not found any sensible difference between horse-flesh and beef. In the actual state of society, the consumption of it for human food cannot be relied on. It will probably be employed for the food of beasts. The creatures in the King's menagerie, for example, are said to consume the flesh of twenty horses a week. Dogs are fed upon it. Large masses are brought into the city daily, and carried and distributed, the commissioners know not where. The presumption is that no small portion of it is employed in the diet of the inhabitants.

5. *The Issues.* By this word is meant all the interternal parts, such as the brain, tongue, lungs, windpipe, heart, liver, kidneys, bladder, and intestines. They are mostly heaped up, and sold for manure. Occasionally the small intestines are manufactured into cords for the wheels of turners and other artizans who employ rotatory machinery. The mass of these substances, corrupting in the inclosure, sometimes amounts to a heap 4 or 5 feet high by 20 feet long; for the farmers and gardeners only want it during autumn, winter, and the beginning of spring.

6. *The Tendons.*—These are a valuable part of the horse. They are purchased by the manufacturers of glue, some in a soft and some in a dried state. Great quantities of the latter preparation are occasionally exported to foreign countries.

7. *The Fat.* Next to the skin and tendons, the fat is the product which gives the most profit; but different horses afford it in very unequal quantities. The men dissect out, to the smallest lump, from among the muscles, with consummate skill. They collect it assiduously from every other part; and they seek it with such industrious nicety, that a fat horse will occupy a dexterous workman from 6 to 8 hours; while a lean animal can be despatched in half an hour. It is cut into small gobbets, and tried in kettles heated by a fire made of the dried bones. It is then barreled up for use.

8 *The iron Shoes.* The shoes are taken off, and sold either as old iron, or as horse shoes ready made.

9. *Horse-shoe Nails.* These are carefully collected and made articles of a particular trade.

10. *The Hoofs.* These, after having been separated from the foot by boiling, putrid fermentation, maceration in cold water, or by dessication, are sold to the horners, to be manufactured into combs; which being of a very coarse kind, many of the hoofs, especially the defective ones, are sold to the manufacturers of volatile alkali and prussian blue.

11. *The Bones.* These were for a long time a drawback upon the business. They have been heretofore often used for constructing walls and fences. The hard parts of the flat and long bones have a constant demand from cutlers, toymen, and fan-makers. But their accumulation was so great, and they became such an incumbrance, that it became necessary to destroy them by fire, in ovens constructed for the purpose. Notwithstanding which, the piles of skeletons and bones are so numerous in the inclosure at Montfaugon, that they cannot be described nor beheld without horror. It is a memorable circumstance that while the great hospitals of Paris have been selling their bones at high prices, these kinds so nearly resembling them, should be burned and abandoned.

12. *The breeding of Maggots.* Connected with this singular business, is the rearing and multiplication of the larvæ of flies, called maggots, for profit. Such heaps of putrefying substances attract, in the warm season, extraordinary swarms of flies. There are three leading species, the *musca carnaria, musca cæsar,* and *musca vivipara,* which deposit their larvæ ready formed upon the putrefying mass; more especially of the intestines, which the men arrange and dispose for the purpose. To keep away the scorching rays of the sun, they cover the surface lightly with straw. Through the interstices the insects enter and deposit their brood. In a few days the whole appears to be a living mass, consisting of myriads of maggots moving in the recrements in which they were bred. The coarser parts of the covering being removed, the maggots are taken up with a shovel, and sold by measure. They are extensively used by fishermen for bait. They are sought as food for pheasants, and for young birds; and they are greedily devoured by poultry. At Dussaussois, the man who superintends the maggot-breeding, not only receives no compensation for his disgustful services, all day long, but he pays weekly for the privilege, while the fine weather lasts, a compensation of thirty francs, for leave to carry on the trade.

13. *The visitation of Swallows.* These active birds, perfectly innocent to man, are the implacable enemies of flies, and probably of some other insects. The sagacious reporters observe that after the larvæ have hatched out, and given rise to the clouds of flies which thicken the atmosphere, the birds denominated swallows, (*hirundines,*) are attracted from every point of Paris. Their numbers surpass every means of counting them, at certain hours. They come to make a natural and cordial meal on the flies; and after having made a full repast, they retire to their nests and roosts.

14. *Gunners at Montfaucon.* As the flies draw the swallows, so the swallows attract the sportsmen. Gentlemen who wish to acquire high skill in the art of shooting, come to Montfaucon, to attain the art of bringing down birds from their rapid flight. One of the marksmen, one day, in a very short time, is reported by the commissioners as having brought to the ground more than 50 of these swallows.

15. *Rats at Montfaucon.* It is not surprising that rats, (*mus decumanus*) omnivorous animals, and particularly devourers of flesh, should fix their residence in a place where they can get an abundance of food that suits their appetites. There they may propagate their species without restraint, and in this situation to an innumerable amount. In proof of this assertion, it is stated that if the carcasses of horses slaughtered during the day, are put into any corner of the inclosure for the night, they are found the next morning wholly denuded of the flesh which had adhered to them. An approach toward an estimate of their number, was attempted, from a knowledge of the qnantity of muscular substance devoured in a given time, compared with the amount necessary for the subsistence of a single rat. The workmen have on several occasions enticed rats into a tight apartment by carcasses, and afterwards entered during the night, with torches. Proceeding at this rate, at the interval of a few days, they have killed within a month, *sixteen thousand and fifty.* When it is remembered that the part of the establishment of Dussaussois, where this hunt was made, is not a twentieth of the space where animal substance was deposited, it will not be wondered at that 2650 have been killed in one day, and 9101 in four hunts. After all which, they breed so fast, their number seems rather to increase than diminish. As they burrow under ground like field-mice and rabbits, they undermine walls, and demolish buildings at such a rate, that the proprietor could only secure them by laying the foundations in pieces of broken glass. The ground is so excavated as to tremble under the feet of the walker; and such of the rats, in this crouded settlement, as cannot get quarters in the immediate vicinity of the food-magazine, establish themselves at four or five hundred paces distant. Such is their voracity and ferocity, that they sometimes devour each other. M. Majendie had ordered a dozen rats, for certain experiments. They were put into a box; when they arrived at his house, there were no more than three alive. The others had been devoured, there being nothing but their tails and other fragments left. The rats have been known, under prevalence of considerable cold, to enter the body of a horse through the wound or the anus, and to take up their residence between the skin and the bones, until all the soft parts had been as completely destroyed as they could have been by the best operators, or preparation-makers. Their fecundity is astonishing; for the females have five or six litters in a year, and bring forth not uncommonly 14, 16, or even 18 young ones at a birth. Rats have a strong attachment to the eyes of horses, which they devour first, after the manner of eagles and birds of prey.

16. *Dogs and Cats.* At the inclosure of Dussaussois, there is an apartment particularly destined to the *escariage* of the dogs and cats collected in the streets of Paris and from the river Seine. The grease and the feet are the most valuable parts; the latter being employed by the glue-makers. There is a gallows for hanging the dogs and cats that are brought in alive. The commissioners never entered this chamber without seeing the bodies of dogs and cats, nicely dressed and displayed as if for cooking and eating!

After having discussed these and other topics in a very detailed and perspicuous manner, the gentlemen proceed to state to the Prefect their plan of reform, under several heads:

1. The place for the new central *escariage* near the

bank of the Seine, below the city, in a very retired situation.

2. A set of suggestions for the internal police of the establishment.

3. Recapitulation of what had been said on the employment of different parts of animals after their death, and an exposition of certain improvements which may be introduced into the processes, for rendering the products more useful.

I shall mention a few of these recommendations.

On the subject of the *skins:* should it be necessary to keep them so long as to endanger putrefaction, they propose to preserve them by pyrolignic acid.

It is proposed to keep the *blood* derived from living horses by itself, and separating the fibrine, to sell the liquid to the sugar refiners. It may be dried by heat, and carbonized in stoves or braziers, for the preparers of prussian blue. Should there not be a sufficient demand for the whole, the residue may be mixed with the *issues* to form manure; or, a part of it may be dried, and mixed with the vegetable food given to fowls and hogs. They even suggest the benefit that would arise from exporting dried blood to the colonies, as a manure for the sugar cane!

As to the *muscular* parts, the commissioners report that they have seen those which had belonged to fat horses so carefully ranged and displayed along the walls, that they would not have dishonored the best-kept butcher's stall. They have every reason to think that much of it is consumed by the indigent class of the metropolis. They earnestly recommend public permission to have it sold for human food, and not clandestinely as it now is. Of its palatableness, healthiness, and nutritious qualities, not the smallest doubt is entertained. Instead of turning the residue to manure, they advise to convert a part into adipocire for candles, and to preserve the remainder by jerking or exsiccation for feeding dogs, cats, &c. in winter, or times of scarcity.

From the *issues*, they propose to extend the preparation for cords and bands; the mingling them with composts for manure; and the conversion of them into adipocire.

They propose several improvements in the preparation of the *grease* or *fat*, which is in constant demand by enamellers, leather-dressers, and harness-makers. It burns with a steady flame, and affords a much stronger heat than oil.

On the subject of *bones*, the commissioners remark, that they have become articles of prime importance in so many arts and manufactures, that there are not enough, at the present time, to satisfy the demand. They consequently bring a high price. They are gathered from a great distance round, in the fields where they are scattered about. The walls and fences formerly constructed of them, have, even, been demolished. Bones are so much in request that they are imported into France, from Spain, Italy, and even America. Besides the various uses to which they are applied by turners, cutlers, button-mould-makers, fan-makers, &c. they are extensively employed by the glue-makers, who extract the gelatine either by boiling in water of a high temperature, or by acids for separating the pure animal matter. When ground in mills, or pounded to powder, they form an excellent manure. They furnish, by proper treatment, plenty of volatile alkali. But, above all, the preparation of *bone-black*, (ivory-black,) or *animal-black*, of which there is an enormous quantity consumed, would of itself work up all the bones that France could furnish.

In regard to rats, destroying them by poison is not recommended. They prefer killing them by the vapor of sulphureous acid, prepared in a particular machine, which they describe, as capable of blowing it into their holes and burrows. It is related that the skins of rats are, latterly, bought by furriers at the price of 3 francs and 75 centimes the hundred.

In thus giving you a notice of this performance, which the commissioners state to have cost them 7 months of persevering labor, it is my hope, that its singular and important contents may interest our fellow-citizens, and more especially the municipal authorities of our state and nation.

I beg you to accept the assurance of my good feeling, and wish for the success of your publication.

SAMUEL L. MITCHILL.

New-York, April 3, 1828.

ART. 70.—*Green Earth, or (as it is improperly called) Jersey Marl.*

In the southern parts of New-Jersey there are large deposits or beds of a dark slate colored or greenish earthy substance improperly called *marl*. Mineralogists say that *marl* is essentially composed of carbonate of lime and clay in various proportions, and it may be indurated or earthy and friable.

From the analysis of Mr. Sybert, of Philadelphia, the *marl* of New Jersey contains no lime, and only a small proportion of alumine or clay. It, therefore, cannot properly be called a *marl*, but as it appears like *marl* to have a fertilizing effect in certain cases, we have made an extract from a communication of Dr. Harlan, in the Journal of the Academy of Natural Sciences of Philadelphia, to put the character of this substance in its true light. It has no doubt been advantageously used in many parts of New Jersey as a manure, and although not entitled to the name of *marl*, it may still be employed as a valuable auxiliary to agriculture.

We have seen samples of this earth which have been referred to some of our chemists for further ex

amination, and as quantities of it have been offered for sale to farmers in our immediate neighborhood, we have thought it worthy of notice at this time, when they are spreading their manure, and preparing their grounds for the crops of the coming season.—*Jour. of Com.*

From observations of Dr. R. Harlan, on the Geology of West-Jersey.

All that part of the state denominated West Jersey, and which is included between Trenton and the Delaware bay, on the north and south, and between the Atlantic ocean and the Delaware river, on the east and west, is entirely of oceanic or tertiary formation.—The surface is composed chiefly of sand, occasionally of gravel, and very seldom of clay; not unfrequently of all three mixed.

This circumstance, in connexion with a knowledge of the substance improperly termed *marl*, will explain the vague and contradictory opinions of the farmers, respecting the manuring qualities of this earth; some of whom informed me, they considered a load of this *marl* equal to a load of *dung*. Others thought that although the marl enriched the land and made it more productive the first year, it subsequently produced an impoverishing effect on the soil. Others again declared that though they had frequently made the experiment, they always found the *marl* absolutely injurious.

The fact is, that this earth, which was formerly very extensively used as a manure, possesses no more claim to the name of *marl*, than any other earth in which fossil testacea (shells) abound; generally speaking it is little more than a ferruginous clay. Quantities of pyrites are also found to exist almost universally: sometimes constituting the casts of shells, at others filling the cavities of bones; and to the prevalence of which may be attributed the imperfect state in which the organic remains are generally discovered, and the very great rapidity with which they decay on exposure to the atmosphere, unless they are varnished, or other means are used to prevent the access of the air.

It is, further, to the prevalence of pyrites we must refer the injurious effects of the *marl*, when spread too thick upon the soil; when on the other hand, if mixed sparingly with new soil, it destroys or reduces to earth the fibrous matter, and thus proves highly beneficial as a manure. Should the soil be composed almost entirely of loose sand, (as it frequently is) the clay, which is the principal constituent of some of the "*marl pits*," will give consistency to the soil, and enable the vegetables to take root; in which sense it may be said to act as a manure; but even in this case it is probably not so beneficial as would be an equal quantity of Pennsylvania *clay*, without the iron earth which always occurs with the Jersey clay. But should there happen more pyrites than usual, or should the soil be naturally argillaceous, then must the "*marl*" prove destructive to vegetation, and disappoint the agriculturist.

Not unfrequently whole strata or beds of this *marl* will occur without a single fossil, of a loose friable structure and moist nature, more or less graduated, and of various colors, but most commonly of a dark slate-black, or greenish color; this is the most fertilizing, and has been by some supposed to consist chiefly of decomposed organic remains—but how erroneous is this opinion will be clearly comprehended by the very accurate analysis of this earth, furnished by Mr. Henry Sybert, of Philadelphia, viz. Silex, 49,83; Alumine, 6,00; Magnesia, 1,83; Potash, 10,10; Water, 9,80; Protoxide, 21,53; Loss, 89—100,00.—*Jour. Acad. of Nat. Science of Philad. vol.* 4.

ART. 71.—*Economy of the Kitchen-Garden, the Orchard, and the Vinery, with plain practical directions for their management. By William Wilson, New-York.* 1828. 12mo. pp. 206.

From the extracts we have made from this little work, in former numbers of this journal, our readers will have been enabled to form some opinion of its merits on those subjects which we have selected. It is now before the public, and if its circulation should bear any proportion to the value of its contents, we trust the author will have no reason to complain that his labors are not duly estimated. From an attentive perusal of it, we recommend it very cordially to all those who feel an interest in the successful cultivation of the soil, either on a large or small scale. We warn the reader, however, not to form an idea of its merits from its bulk. It would not have been a difficult matter to expand the contents of this little volume into a ponderous octavo; but the author has been content to give us his information and advice, in a plain and perspicuous manner, equally well adapted to the subjects he has selected, and the class of readers to whom it is principally addressed. For one chief characteristic we think it cannot be too highly prized: the author writes from his own experience, and his precepts, being the results of a long course of successful practice, and a perfect knowledge of the peculiarities of our climate and soil, are therefore entitled to the most implicit confidence. In this respect, it will bear an advantageous comparison with those compilations which are so common among us, made up by authors wholly destitute of practical knowledge, and gathering their materials from the experience of countries entirely different in natural constitution from our own. In fact, nothing has more contributed to retard the progress of agricultural knowledge in this country, than the reliance we are in the habit of placing on imported information. Not that we should consider ourselves too wise to receive good advice, from whatever quarter it is offered; let us eagerly adopt the improvements and new lights which are brought to view, in any country, respecting the princi-

ples which ought to direct the labors of the husbandman and gardener; but let us be more disposed to look to the skilful experimentalists of our own land, for the practical, and therefore the only useful, application of these principles; and let us offer them every inducement to publish the results of their experience, as the only solid basis of future improvement.

We shall not undertake to present an analysis of the work before us, which scarcely admits of condensation. The subjects selected are of the most important kinds; and whoever feels an interest in the most proper management of culinary vegetables of the best sorts, herbs used for condiments or medicinal purposes, and particularly the choicest fruits of the orchard and vinery, may find ample instruction in these pages, the practical directions for which are supported and enforced by the soundest theoretical views. For all these we refer the reader to the work itself. We shall select, however, the account of the Peach tree—a subject of peculiar interest at this moment, and respecting which we deem it of the highest importance that correct views should be entertained. The scarcity of this fruit of late years, which formerly abounded in every section of our country, the destruction of old trees, and the difficulty of preserving young ones in a thriving condition, have given rise to an apprehension of the gradual extinction of the whole stock. Much speculation has been excited to account for the cause of an evil which thus attacks us in the most delicious of our orchard fruits, and is the only instance of a similar phenomenon among all our vegetable products. The most prevalent opinion at present, seems to be that the mischief originates with the worm, or the larvæ of different species of the insect tribes. Various arguments are advanced in support of this theory, which is not destitute of plausibility, when we consider that the ravages committed by these depredators is visible in most cases to the naked eye; and the conclusion would be very natural from a partial injury to a general destruction. It appears to us, however, perfectly demonstrable, that the cause assigned, although it may operate to a great extent, is not sufficient to account for the evil which is so universally complained of. The manner in which insects injure trees, is, in the first place, by depositing their eggs in the young germ of the fruit, where the worm which is hatched conceals itself, and prevents it from coming to maturity; or by devouring the leaves; in both of which cases, although the crop of the season may be either partially or entirely destroyed, the tree itself survives; or, in the next place, by attacking the trunk or limbs, and the worms which are produced from the eggs deposited in the bark, prey on the sap of the tree, between the inner bark and the wood. If in this situation they are permitted to work uninterruptedly, and they proceed circularly round the trunk, the operation of girdling is performed; which, in interrupting the circulation of the sap in its descent, eventually occasions the death of the tree. Now it rarely happens that these insects exist in such numbers on any tree as to destroy the entire crop of leaves and fruit; since, in ordinary situations, they have too many enemies to encounter, in the changes of the weather, the numbers of birds that prey on them, &c. to allow them to increase to this extent; and we apprehend that instances are equally rare of their entirely girdling trees, since their operations most commonly extend in irregular directions. Whatever injuries they cause by perforating the bark and wood, short of girdling, will not produce any fatal effects, since we know that large portions of both wood and bark may be detached from a tree without preventing it from bearing fruit in abundance. It would seem therefore, that, to a vigorous and healthy tree, these worms occasion only a partial damage, not sufficient to overcome its vital energy. When peach trees are observed in a state of decay, and exhibiting the usual symptoms of approaching death, worms will in general be found preying on them. But so far from being the cause, they may in fact be considered as the consequence, of the diseased state of the trees; and their encroachments may rather be invited by the morbid juices, which in that state might be more fit for their subsistence. In support of this view of the subject, we may produce analogous instances in the animal tribes, scarcely any of whom are not infested by some parasitic insect or worm: for example, the bots in the stomachs of horses, and on the hides and other parts of horned cattle, intestinal worms in birds, fishes, and in the human family. In vigorous and healthful subjects, these rarely occasion any destructive consequences; but when infirm from age or disease, they contribute materially in hastening the progress of death. Why should not our apple and plum trees disappear in the same degree, which are no less annoyed by insects? and what cause is there for believing that the various kinds of insects select the peach in preference to all others?

We cannot suppose that the gradual deterioration which is observable in this tree of late years, is owing to the greater abundance of destructive insects in the present than in the days of our fathers, when that fruit was as common as any other, and required as little care; and we cannot believe that our climate has of late become more favorable to their increase, nor that the various tribes of insectivorous birds are less numerous than formerly. But the truth is that these untoward circumstances, which, as yet, have been observed among us only with respect to the culture of the peach tree, have been also experienced in Europe in the extinction of several old stocks of most valuable fruit, after a long course of cultivation, and without any apparent cause. The same physical law which has been adduced there to explain the cause of these

phenomena, appears to be perfectly applicable to our own case, without supposing an unnatural war of extermination from a comparatively few enemies among the insect race.

It seems to be admitted as a fundamental principle in vegetable physiology, that every plant, as well as every other animated being, is limited in its existence to a certain period, which being accomplished, its vigor declines, its organs become incapable of performing their accustomed functions, and after certain gradations of decay, its final death and extinction ensue. In its state of disease and old age, it is particularly subject to the influence of parasitic animals and plants, such as worms, and mosses, lichens, fungi, &c. Grafts from trees are but parts of the same individual, and partake of the nature of its qualities, and the determinate period of its existence; and even the seeds of unhealthy and diseased fruits will propagate a new progeny of the same feeble and debilitated character, and cannot enjoy a very long duration.

Assuming this principle as established, and as sufficient to explain the cause of the decay of our peach trees, whose term of life may perhaps be shorter than that of most other fruit trees, it suggests the only rational course to be pursued, with any prospect of success, to renovate our exhausted stocks. When a tree exhibits these symptoms of age or infirmity, it would be a useless waste of time to attempt to protract its existence by artificial supplies of food, or by removing the causes which conduce to hasten its destruction. The only thing to be done, is, to pay a greater attention to the most improved methods of cultivation, to raise seedlings from the most vigorous kinds, selecting only those of the best flavored fruit; and particularly to keep up the supply of the best foreign varieties. This is the only rational mode of recovering our former pre-eminence in the abundance and delicacy of this unrivaled fruit. We are confident that in proportion as these views are entertained, and the labors of our countrymen are directed in this channel, that complaints will cease of the difficulties of raising peach trees.

On these points, and to illustrate the foregoing remarks, we refer to Mr. Wilson's book, and recommend to the attention of every man who wishes for a revival of his peach orchards, the sound advice which he will find in the following article.

PEACH TREES.

"The peach tree used to be cultivated in this country with great success, and in all parts of the country the lots around every dwelling, were sure to be found well stocked with abundance of this delicious fruit. Orchards in all directions were to be found, loaded with the delightful produce; and our markets groaned under the towering piles that for months together every year, loaded the stands of every huckster in the city. From various, though by no means insurmountable causes, the trees began to fail; the cultivators generally became discouraged; almanacs and newspapers were crammed with awful presages and nonsensical nostrums, which, being eagerly adopted and applied instead of an improved mode of cultivation, had for a number of years well nigh effected the total extermination of the whole race. Some solitary instances, however, of a persevering and careful cultivation, continued to retain the practical evidences of the possibility of retrieving the wide-spread desolation. Numbers of new sorts began to be introduced from seed; and even pits dropped in the lanes sprang up of their own accord, and by their noble produce showed their disheartened possessors that there was hope for recovery. For several years past numbers have been resuming their cultivation; and there is every reason to hope that the time is not far distant when our country will again be able to exhibit her wonted splendor in the blooming peach, and every one amongst us, from the hoary headed sage to the playful youth, partake of the cheering luxuries of former years.

"The peach, however, is naturally butof short duration compared to other fruit trees; and it will be prudent in its cultivation to guard against future accidents by a careful introduction of new sorts from the seeds of the most superior sorts to be found under cultivation, in order to maintain a constant and regular succession of new, healthy and vigorous plants. Considerable numbers of those raised from seed, although of good sorts, are generally found to be inferior to their originals; but some are often found equal, and occasionally even surpassing in point of merit; and this is sufficient encouragement for us to continue the means of maintaining a constant succession of a new and vigorous progeny. The observations and experience of the most scientific horticulturists, seem to confirm beyond a doubt the fact that the existence of every plant must terminate about the time of its ordinary duration, and that by no artificial means to be employed can it be supported beyond that period, or in any other way regenerated, but by a reproduction from the seed of itself. Budding or grafting from old trees upon new stocks raised from seed, although it is the means of affording a fresh supply of vigorous nourishment to the scion of the old sort, which is to form the new tree, is still only a new mode of the continuation of the same original individual; and unless there is a natural law in the system of vegetable economy, endowing certain individuals with the properties of being susceptible of a perpetual duration, it is most extremely evident that our most valuable and long esteemed varieties of fruit must at some period become extinct. Every observation that

has been made on the nature of plants, operates against the idea of the existence of any such a law; the provident means with which all are furnished, for the continuation of their individual species by a reproduction from seed precludes the necessity of a perpetual continuation of the original, and multitudes of the finest delicacies and most valuable productions of the vegetable world, can never, by any art or skill in the power of man, be continued in existence beyond the fleeting period of a single year. Nor is there any other means given him for a continuation of their succession, but their seed; neither is there any analogy to be found in the vegetable system, but what goes to confirm the idea that every individual plant in the world must at some particular period cease to exist in any other form whatever upon the face of the earth, except in the embryo of its own seed.

"The length of time of the natural duration of fruit trees, has not as yet been accurately ascertained; that of the pear is supposed to be the longest, the history of the existence of some of which has been traced back for some hundred years. The duration of the apple is thought to be a good deal shorter—that of the peach the shortest of any.

"If the above view of the laws of vegetable economy be correct, it need not be wondered at that our peach trees had for a number of years become nearly extinct; for so long as the old cultivated and well known superior sorts succeeded, very little pains were taken to introduce new sorts from seed, either from abroad or at home. Fruit trees, there is every reason to believe, like the animal creation, have their years of youthful vigor, of maturity, and of feeble age; in which case it must be a work of time and great care ever to recover a strong and healthy progeny from the seeds of decaying trees; and the objection was frequently made here when every hope of recovering the successful culture of the peach seemed to have been lost, that even the trees raised from their seed were weak, and easily fell a prey to disease and death. But this was no more than might have been expected from the miserable state of the trees from which it was were obtained. Various circumstances, however, still existed, more favorable for effecting a recovery. Amongst the old sorts, in some situations, numbers were still to be found, perhaps from those of later original introduction, that stood it pretty well. Accidental seedlings, too, were occasionally to be found of good sorts, that had been raised from seeds of those of former years, both around New-York and Philadelphia. From these, with importations of healthy sorts from Europe, the nurserymen, by careful exertions, recovered a more healthy stock, and the present flourishing state of our nurseries and young peach orchards bids fair to rival, in a few years more, the days of olden times.

"Much apprehension has always been excited for the prosperity of peach trees, from the circumstance of their being liable to the attacks of a worm, in or near their roots; and as many nostrums have been published for its destruction as might have frightened the whole race of reptiles from the face of the earth; and every promulgator, no doubt, thought he had discovered the grand specific, because the tree or trees to which he had applied it were never afterwards disturbed. About four years ago I planted an orchard of one hundred and sixty peach trees, on part of my nursery ground; during which period a few solitary instances have happened here and there of a tree's being attacked by the devouring bug-bear, which were attentively waited upon by the point of a pen-knife, and the trees never sustained the least injury. Now if I had happened to have applied any artificial preventive to all these trees, I might very innocently have been induced to ascribe their preservation solely to it; or if I had been disposed to raise my fame as an Amygdalus physician, I might have, after their escape of four years, applied a sturdy plaster of something around their butts, and exhibited it as an indubitable evidence of the efficacy of my ingeniously composed application.

"One great evil that attends the pursuit after preventives against the effects of insects or reptiles, by some specific application, is the tendency it too often has of preventing the application of that superior cultivation and improvement of the soil around the trees, the beneficial effects of which is invariably felt by them, and which in all ordinary cases, is the most rational and effectual method of insuring the health and prosperity of every plant. This has always been my grand specific in every disease, and for the worm I accompany it, as occasion requires, with the point of a pen-knife, which never fails of having the desired effect, and its application seems to be attended with as little labor as that of any other cure I have seen or recommended. Naturalists have given descriptions of the fly produced from the chrysalis of this worm; but the precise manner in which these flies deposit the eggs that produce those worms, that infect the peach trees, seems still a matter of doubt; some asserting that they are deposited upon the exterior parts of the tree, others in the gum, and others in a puncture made by the fly, in the bark.—That they are not always deposited in the gum, appears evident from the worms having often been found in the bark where there was no gum, and that too, in the very earliest stage of their existence. In the months of July and August, I have frequently observed very small punctures in the bark of the peach trees, and on examining them, have in some instances found, immediately under the epidermis, nestled in the parenchymatous part of the bark, a small black

bug or fly, and in others the frightful worm, in various stages of its growth. The external and internal appearance of the punctures in which both were found, were precisely the same, and both of them seemed to derive their nutriment from the inner bark of the tree, through which neither had as yet penetrated. From the quantity of small fine bark that invariably protruded from these punctures, and by which I discovered them, (no gum ever being present) I concluded that the perforating of the bark had been performed by the mouth, and not the sting of an animal; and yet it might have been made by a sting through which the animal might have entered, and afterwards protruded the bark from the interior in making room for itself.—It might have been made by the fly that deposits the egg, or by the sting of some other insect, or, which I think the most probable, by the little fly's nestling itself through it—in either case it appears evident to me that the fly, in depositing its eggs for the peach worm, occasionally, at least, avails itself of such places; and that it is not always confined to any particular part, in depositing its eggs, appears more evident from the circumstance of the same kind of worms being often found in the bark of the apple tree, and in the centre of the limbs of the currant and lilac bushes.

"The soil most congenial for peach trees, is a sandy loam, although they are rather longer lived on a good heavy loam; but by good culture they will do well on any soil—and whoever wishes to have them free and abundant ought to put the ground they intend to plant them in, in good order, and retain it under good cultivation constantly; for peaches always succeed best in ground that is well labored and kept loose and clear. The ordinary distances for setting them out in orchards, to be worked with the plough, is twenty feet each way, but they succeed very well at fifteen feet apart. Great mischief is frequently done by cutting off the tops of peach trees when they are first set out. If they are furnished with good heads, as they always ought to be before they are taken from the nursery, no other pruning should be given them at setting out, except the moderate retrenching of any very irregular shoots, and this should be done at the time the buds begin to expand; and the chief pruning they require afterwards, is to keep their heads moderately open by cutting out such branches as crowd upon, or interfere with each other. The manner in which peach trees produce their fruit is different from that of the apple or pear, which produce their fruit chiefly upon short shoots that arise from the sides of the branches, that continue to bear for many years. But the peach produces its fruit all upon the young shoots of the previous year, which having performed once with the most scrupulous rules of etiquette, transfers their short lived honor to the next year's shoot in constant succession. This to some may appear a fearful view of the subject; for if the shoots were all to proceed in direct lines, like radii, from the head of the trunk, all those parts of them between the top of the trunk and their extreme ends, would be a naked waste; and from this view I suppose it is that some have directed, very theoretically, to dock off, occasionally, these fearful wanderers, pretty low, in order to furnish some new wood near the top of the trunk again. But this is a most absurd and erroneous project, for all the main branches of peach trees, are trees in miniature, and as they extend from the main trunk, branch out in every direction, and faithfully fill up the circumference of their circular sphere, gradually enlarging the bounds of their usefulness, which the hands of no man but a fool would attempt to interrupt.

"This, however, by no means precludes the necessity or propriety of using the knife freely, in regulating the first branches that are to take the lead in forming the head of the tree. Such branches should commence about four feet from the ground, and should be so regulated that they may extend from opposite sides, all around the head of the trunk; and the knife is to be used for the three first years' growth of the tree, in divesting it of such branches as may tend to throw the balance of growth too much on either side of the centre, or trunk, and on such sides as any deficiency may happen, the shortening of some branches towards that quarter must be performed, and an equal proportion of growth promoted on all sides—and after this is once effected, very little more pruning will be found necessary.

"The following is a list of such sorts as I have in a fine healthy bearing state, of five years growth from the bud.

SELECT NEW SORTS, FROM SEED.

No. 1. *Early Ann.*—A fine early peach, rather larger than the old sort. Raised by John R. Murray, Esq. A. D. 1820.

No. 2. *Rare-ripe.*—A very juicy, good sized peach, ripens about the last of July. Raised by Thomas Storm, Esq. A. D. 1812.

No. 3. *Red Rare-ripe.*—A very beautiful red cheeked peach, ripens in August. Raised by Peter Crary, Esq. A. D. 1812.

No. 4. *New-York Rare-ripe.*—A large, round, very fine flavored peach; ripens the last of August. Raised by Mr. William Broddie, A. D. 1818.

No. 5. *Lady Gallatin.*—A very large yellow free stone peach, shaped like the lemon cling, and ripens in September; a most valuable fruit. Raised by Mrs. Nicolson, A. D. 1818.

No. 6. *Albert Gallatin.*—A fine, large, red sided, delicious peach; ripens early in September. Raised by Mrs. Nicolson, A. D. 1820.

No. 7. *Malacatune.*—A fine, yellow, free stone peach, and a great bearer; ripens in September.—Raised by Mr. Polls, Chatham-street, A. D. 1810.

No. 8. *Ludlow Peach.*—A very large, juicy, greenish peach; ripens in September. Raised by Thomas Ludlow, Esq. A. D. 1808.

No. 9. *Catlin's Cling.*—This is one of the finest bearing sorts, and the fruit a most beautiful, fair, round, sweet and juicy cling-stone. The original tree grew by the kitchen window of the house of Lynde Catlin, Esq. about the year 1816.

No. 10. *Hogg's Malacatune.*—This is a very fine, juicy, well flavored, yellow peach. Raised by Thomas Hogg, Nurseryman, A. D. 1823.

No. 11. *Broddie's Cling.*—This is a very large, round, yellow cling-stone, very fine. Raised by William Broddie, Greenwich, 1818.

No. 12. *Probyn's Peach.*—A large, round, red-sided, very fine yellow peach; ripens in September. Raised by Edward Probyn, Esq. A. D. 1823.

No. 13 *Lemon Cling.*—This is a very fine and true specimen of the old lemon cling, raised by Mr. Dunlop, of Greenwich, A. D. 1822.

No. 14. *Emperor of Russia.*—This is generally esteemed as a very fine fruit—the leaves of the tree are very deeply serrated. Raised by Mr. Michael Floy, A. D. 1818.

No. 15. *George the Fourth.*—One of the very best of our freestone peaches.

The first thirteen sorts of the above list, I obtained scions from with my own hands, when the trees were in full bearing; and their worthy owners, to whom particular reference may be had, will, I doubt not, allow the correctness of the above statement.—The two last sorts have borne fruit in fine style, with Mr. Floy, from whom I obtained the scions.

The following is a list of ten more well known fine sorts, which are considered as having originated in this country, and which are still continuing in a fine, healthy, bearing state, in my orchard.

1. Brevoort's Seedling,
2. Cooper's Early,
3. Williamson's N. York,
4. Morris' Pound Peach,
5. Red,
6. President,
7. Chancellor,
8. White Cling,
9. Heath do.
10. Pine Apple.

ART. 72.—*Roses.—Extracted from* PRINCE'S *Treatise on Horticulture—communicated by the Author.*

No class of plants, so easy of culture as this, yields more intrinsic delights to the amateur; the diversity of size, color, fragrance and form, have been varied by art to an almost infinite degree, and in the collections of Europe above 1400 varieties are enumerated. Since the catalogue of the Author's establishment was put to press, above 100 new varieties have been received, and the collection now exceeds 600 varieties, including 100 kinds of China and India roses, and 15 varieties of the Moss rose. Enduring the rigor of the severest winters uninjured, and yielding with so little attention such a rich accumulation of beauty and fragrance, every garden should possess at least all the more conspicuous varieties of this unrivaled flower; and it is hoped, ere long, we shall see the fashion followed in this country, which has for years prevailed in England, of training the hardy climbing varieties of the Chinese and other twining roses against the sides of our country houses and cottages, as the profusion of flowers which they daily afford from spring to autumn, gives to the retirement of these rural scenes a degree of Floral enchantment, and throws an air of magic round the spot.

Soil.—The rose, with few exceptions, delights in a light fresh soil, not subject to become sodden with rain and wet. I have found a mellow loam very successful in causing them to flourish, and to throw out vigorous shoots and abundance of flowers; but the rose is by no means difficult to accommodate to almost any soil not saturated by superabundant moisture.

Propagation.—The rose is generally increased by suckers from the root or by layers; there are also many varieties which succeed by cuttings; but these are principally the Chinese varieties. They may also be increased by inoculating and grafting; but these seldom survive beyond the third year, when others should be budded from them to supply their places.

Varieties.—These are so numerous, that it is impossible to give descriptions of them in this limited work. Many of them, however, have brief remarks attached to their names in the catalogue descriptive of their characters. Although the author's collection is very numerous, still the selections have been made with great care, and they combine a rich accumulation of the varied beauties of this favorite flower. I will now proceed to make a few remarks relative to some particular varieties.

Moss Rose.—Of this there are a number of varieties, varying in color, size, and other circumstances. The one most generally known is the Red moss. The others are the Blush moss, with very large flowers, of an exceedingly delicate color, and by many considered to surpass all others; the New Red moss and the Scarlet moss are very fine; the White and the Striped moss, the Small moss, Dark moss, Single moss, &c. are also much admired, and the whole form an unique collection in this family of flowers.

Yellow Roses.—There appears to exist some difficulty in making the Double yellow to flower well; I therefore remark, that it requires an airy situation, and a dry and gravelly soil; and that the old wood should be cut out near the ground every autumn, which will

cause a succession of thrifty blooming shoots. When budded on the Common China, or the White musk, it is said to bloom exceedingly well; and one instance is mentioned by Loudon, where it was budded on the China rose at the height of ten feet from the ground, in which case it was found to flower abundantly.

The following remarks are also extracted from his Magazine.

The Double Yellow rose flowers better on an east, or west, or even a north wall, than on one exposed to the south; it should never be pruned further than by cutting out the dead and irregular shoots, and thinning out the blossom buds; it has flowered under such treatment for several years on the south and west ends of a house. It flowers as freely budded on the Rosa indica, as Rosa odorata does on the Common Blush rose. Another writer recommends a northern aspect in preference to a southern one, and mentions one that bloomed very freely on an east or north-east wall, and others that had produced abundance of flowers when planted on a very dry chalky soil. The Single Yellow, and Red and Yellow Austrian, bloom freely in almost any soil, and with little or no care. There are various other yellow roses, viz.—the Single and Double Yellow Scotch, the Yellow Tea-scented, the Yellow Multiflora, &c.

Black Roses.—The desideratum of a black rose has long been a subject of comment, but does not in fact exist. Those so denominated are of an exceedingly deep purple color, with some shades of black intermingled. Of these some are darker than others, and they vary in point of size, form, and in being more double, &c. The author has imported from every country, those considered the darkest or blackest, which have all produced flowers; he is consequently able to give his opinions with accuracy. The darkest of these is the La Belle Africaine; next are the Imperial, the Sable, the Black Mogul, and the Gloriosa Superba Noir; then follow the other 12 varieties enumerated in the catalogue, including the Tuscany, which was a few years since the darkest then known, and is still considered as one of the most beautiful roses.

Tricolour, or Belle Alliance.—This is a most singular and beautiful rose; there is no other that at all approaches it in appearance. When first expanded, the petals are a fine red, striped with white, the color afterwards changes to shades of lilac, united with the red and white, at which period it is most interesting. It was obtained from a very skilful florist in the interior of Holland, and by him more highly prized than any other rose in his collection.

Sweetbriar, or Eglantine.—This delightful species of the rose family is well calculated to train against the sides of houses, or up the pillars of the piazza, or to intermingle with the vines which entwine bowers, &c. There are a number of varieties; the most common is the Single Red, which is found frequently growing in wild luxuriance by the sides of roads, hedges, &c.; the next is the Single Blush, imported from Europe; after which follow the more rare varieties, viz: the Semidouble Red, the Double Red, Double Blush, Double Marbled, Double White, the Evergreen, and the Chinese White. Some of these are as large as a middle sized rose, and two inches in diameter. After training these in the situation they are to occupy, the branches may be inoculated with numerous other kinds of roses at a considerable height from the ground, which will render them particularly interesting.

[From the New-England Farmer.]

ART. 73.—*Insectivorous Birds—their importance in destroying insects, &c.*

Mr. Fessenden—These are to the farmer and gardener of great value. They were designed by the Creator to check the too great increase of insects; and no farmer ought to suffer them to be wantonly destroyed on his premises. The number of insects destroyed by the robin, swallow, sparrow, mock-bird, and other small birds is astonishing. One little family will destroy several hundreds in a single day. Some little time since, a pair of these small birds built a nest on a lilac, which grew close to one of my windows. In the time of incubation, there was a long and severe storm, and a strong wind. The eggs were in danger of being thrown overboard by the wreathing of the bush. Conscious of this, the female kept the nest to prevent any accident which might follow on her leaving it, to collect food. Her mate like a good provider, was busily engaged during the day in collecting food (insects) which he carried to his companion, and she received it of him with apparent affection. This circumstance excited particular attention; and of course this little society was closely observed. In a short time the eggs hatched; but from the roughness of the weather, or tenderness of the brood, the female chose not to leave the young. During this time, the male with surprising industry, brought small insects, in the larvæ state, to the nest, but was not suffered to feed the nestlings. The female received the food, and divided it among her little charge. When the young had gained sufficient strength, the male was permitted to feed them; and from this time, both parents were mutually and incessantly, (by day) employed in collecting small insects from every quarter; and, on a moderate calculation, to the number of about seven hundred in a day.

One great cause of the increase of many insects, so destructive to vegetation, is the decrease of those little friends to the agriculturalist. Should a few of them innocently trespass on the property of the farmer, to the amount of a few cents, let him remember, that he

is greatly indebted to them for services rendered; and not wage a war of extermination.

They are not merely useful, in destroying insects, for they call the farmer and the gardener to their business—cause the groves to resound with music, and usher in the morning with melodious praise.

R. GREEN.

Mansfield, March 27, 1818.

ART. 74.—*Proceedings of the New-York Horticultural Society.*

The pages of our journal have been largely indebted to the contributions of members of this excellent institution.

There are few associations in this country which better deserve the title of an operative society, zealously and actively pursuing its purposes, or which have a stronger claim upon public countenance. Its meetings are held regularly once a month, though committees for the several purposes relating to the business of the society, meet weekly, or oftener as occasion requires. At the meetings much valuable information is interchanged among the members; but as a great portion of it consists of verbal communications, the benefit of it is principally confined to the inmates of the society.

We shall avail ourselves of the privilege of consulting their minute books, for the purpose of registering in our Journal such part of their transactions as are proper to be made public.

At the monthly meeting of the society, at their room, March 25th, the season of active operations not having yet begun, the principal business transacted, was the distribution of the seed which was received from Charles Telfair, Esq. from the Island of Bourbon, whose letter to the President we published in our 1st No. Many interesting species of ornamental and useful plants, of that locality, will we hope by this means be introduced to our country. Among others, we noticed the highly remarkable species of *Joliffæa*, to which Mr. Telfair refers in his letter. This plant is described by Dr. Hooker in his continuation of Curtis's Magazine, under the name of *Telfairia pedata*, the generic name being dedicated to the gentleman by whose patriotic and scientific zeal it was first introduced into England, and to whose liberality we are indebted for the like opportunity of raising it among us. It is a perennial climbing plant, of the order *Cucurbitaceæ*, bearing a large beautiful flower, and a fruit of the magnitude of three feet in length, and eight or ten inches in diameter. This fruit is full of seeds, as large as chesnuts, and as fine flavored as almonds; yielding, also, abundance of oil, equal to the finest olive. It is a native of the Island of Bourbon, where it grows on the margin of forests, and covers the trees with its luxuriant branches and foliage. We hope that under the skilful management of the committee to whom they were referred, it may be added to our catalogue of choice fruits. Another curious fruit was also distributed, which we are at a loss to designate by its proper name, not finding any account of the plant in the books which are accessible. It was not labelled; but it is evidently the *Balanopteris Tothila* of Gærtner, and coming from the same locality with the other seeds, we presume it must have been described under some synonym not known to us.

At the same meeting, beautiful luxuriant specimens of red and white Hyacinths, were offered from the garden of Mr. Kinnersly.

Vegetation is remarkably forward this season, and during the weekly meetings of the committee of inspection, the members exhibited numerous specimens of fruit trees, particularly of peaches, in full flower, from the open ground. From the garden of Mr. Warner, a branch of the Moore Park variety of apricot, was presented, bearing young fruit of three and a quarter inches in circumference. The tree is in the open air, trellised against a wall.

[For the New-York Farmer and Horticultural Repository.]

ART. 75.—*On the Ichneumon Fly, said to be destructive to peach trees.*

MR. EDITOR—I am desirous of receiving information on a subject, respecting which, as it is connected with the objects of your journal, you must not think me obtrusive, if I offer a few remarks.—One of your learned correspondents, has given an account of another voracious depredator on our Peach trees, which he calls *Ichneumon nemoralis*. I have often noticed this insect, but am inclined to doubt whether he deserves to be put on the proscribed list, among those who are known to be guilty of the crime of which he is suspected. Unfortunately, we know so little of the manners of insects, that we are apt to declare war against the whole race, as if they were universally to be considered as pirates or destroying angels. With respect to the present one, there seems to be some circumstances in his favor which ought to exempt him from this general denunciation, or at least to suspend the sentence against him. In the first place, unless I have misunderstood your correspondent's statement, he was not caught in the fact, but was only found lurking near the scene of mischief, and was condemned, like other suspected characters, for being found in bad company, and in a bad neighborhood.

In the second place, his family connexions ought to screen him from punishment, as is the case with other criminals. The genus, or race to which he be-

longs, so far from being marauders and destroyers of the property of man, actually perform a very important and friendly office to him, in diminishing the number of his enemies; like the little quadruped, his namesake, which is so serviceable to the inhabitants of Eastern countries in destroying the eggs and young of the crocodile. The Ichneumon fly, was so named in allusion to its propensity to prey on the bodies of the living larvæ of other insects, depositing its eggs so that when they are hatched, the young worms can attach themselves to these larvæ, and feed upon them until they finally cause their death. I have frequently observed this fact, with respect to the larvæ of the *Sphinx erantor*, a large, green spotted caterpillar, on which an Ichneumon fly (not the present one) deposits its eggs, and have seen them covered with these parasites hanging on them. Now I cannot help thinking, that all the race are possessed of similar habits, since the conformation for which they are so remarkable, viz: the structure of their oviposit, is the same in all. I should be glad, however, to be informed by your correspondent what particulars he has observed in this species to warrant the inference that it differs in its economy from the rest of its tribe.

Yours, &c.

ENTOMOPHILUS.

ART. 76.—*Suburban Gardens of New-York.*

As one of the principal objects of this journal is to register all facts relating to the progress of Horticultural science, we shall take opportunities of occasionally visiting the gardens in our neighborhood, with a view of ascertaining particulars connected with our purpose. There are many valuable establishments of this kind, in our vicinity, chiefly devoted to the business of the nursery, yet in most instances, the proprietors have attached to them conservatories, which are rich in foreign as well as native plants of great rarity and beauty. In the absence of a Botanic Garden, which we are concerned for the honor of our state to confess still remains a desideratum in this great metropolis, we have to resort to private establishments.

At a recent visit to Mr. Hogg's garden, we were much gratified by the great number of rare plants which he has assembled together in his green and hot houses. For the purpose of a nursery as it is usually carried on in this place, his grounds are rather circumscribed, having not more than two and a half acres, but his collection of remarkable plants from New-Holland, the Cape, and elsewhere, is unrivalled in this country. Much credit is due to Mr. Hogg for the introduction and propagation among us, of rare and beautiful exotics, some of which he has completely succeeded in acclimating. We noticed in the open garden the beautiful *Potentilla nepaulensis* which has stood the rigors of three winters, and at this early season is in full foliage; the *Papaver brachiatum* also remarkable for its beauty and large size; a species of Pine from New-Holland also proved quite hardy, besides a great number of European and other plants, not known, or uncommon in our gardens. The *Yucca aloefolia* of our southern states, is now in fine condition in the open ground, where it has remained during the winter, and the *Pulmonaria virginica*. Mr. Hogg has a superb collection of *Primula chinensis*, and *Lachenalia tricolor*, both of which by his means have become very common among the ornamental plants of our parlors. Among the rare plants now in flower in the green house, are the following:

Ixia tricolor, Kennedia maculata, Pittosporum chinense, Acacia armata, and several other species, *Lachenalia luteola, Cactus mamillaris, Veltheimia capensis, Dianella* —— ? a probably new species, no doubt lately described in some new work not yet received, *Eucalyptus* —— ? *Correa alba.*

ART. 77.—*Culture of the Mushroom. Extracted from* LOUDON'S *Encyclopædia of Gardening.*

The edible mushroom (*Agaricus campestris*, L.) has long been held in esteem in this country. Its peculiar habits, and the method of propagating it, are so unlike those of any other culinary vegetable, that gardeners, till lately, seem not to have generalized on its culture. For a long period back, it seems never to have been produced in any other way than on ridges of warm dung; no one appearing to advert to the circumstance of its being indigenous, and that it may be grown in the open ground in the warmer months.

The cultivation of Mushrooms, Nicol observes, "is a process in gardening, perhaps the most singular and curious of any. In the culture of any other vegetable, we either sow or plant something material,—a seed, slip or root, which we both see and handle; but in the culture of the mushroom, we neither sow nor plant any thing visible, at least to the naked eye. Yet it is certain that mushrooms are produced by seeds, which naturally vegetate in the fields at certain seasons, and which may be made to vegetate artificially at any season, by a certain process, and by a composition, in which the dungs of certain animals form the chief ingredient. The droppings of horses are found to produce mushrooms more plentifully, and with greater certainty, than the dungs of other animals. Hence it would appear, that their stomachs have less power to hurt or to destroy the vegetative quality of these seeds, which being collected along with their food, must pass through their intestines, than the stomachs of other animals; or, that the dung

of horses is a better nidus for the seeds than other dungs. The food of horses, consisting mostly of corn and hay, may, no doubt, be more replete with the seeds of mushrooms than that of cows and other stock, which consists chiefly of green vegetables; but even the droppings of horses while at grass, or on tares, produce few or no mushrooms, as more particularly noticed below. This fact would seem to prove, either that the seeds are collected in greater numbers, and are better preserved by hay or the straw and chaff of oats, than by green food; or, that green food may have the effect of destroying them by its moistness in the stomach, or after having passed through it. It may further be observed, that animal matter seems necessary to the vegetation of the seeds, or the spawn of mushrooms. Hence we find them produced plentifully in old pastures, and in cattle sheds, whether these be frequented by horses, cows, or sheep, or by all of them; but the eatable kinds are never found in woods or fields from which cattle are completely excluded, though the herbage be ever so old. From the stubs of cut or decayed trees, and about such as have fallen and rotted, many species of fungi spring: most of which are nauseous, poisonous or unwholesome. The seeds too, may lie concealed and dormant in various other matter, till put into a state of active vegetation by a proper temperature, and a proper degree of moisture.

What spawn is. Spawn is a white fibrous substance, running like broken threads, in such dry reduced dung, or other nidus, as is fitted to nourish it. These threads produce, when planted,, tubercles in the manner of potatoes.. The true sort has exactly the smell of a Mushroom. Spawn when once procured, may be extended or propagated as spawn, without producing mushrooms.

Producing Spawn. This vegetable may be produced, by first making lumps or what are sometimes called cakes of spawn, and afterwards placing them on a slight dung hot-bed, where the spawn vegetates into complete mushrooms; in which process of making the spawn (as it is termed) different ingredients are used, but chiefly the dung of horses as said above. This has so far become a branch of trade, as that mushroom-spawn may be had of most of the nursery and seedsmen about all the great towns in the kingdom.

Originating mushrooms without planting spawn.—Nicol says, "I have formerly been in the practice of producing mushrooms, however, most successfully, without using spawn, and by a very simple process: I might rather say, without transplanting spawn in the common way, but by making the bed a whole mass of spawn at once, and never disturbing it till done bearing. Beds that are built in the common way, and spawned, seldom produce long; perhaps only a few weeks or months. I have had them continue to yield large crops the year round, and sometimes for two years. But mushroom beds, in whatever way made, are subject to many misfortunes; and the spawn is of a nature so delicate, that it is quickly destroyed either by too much wet or drought. By making up a bed in the ordinary way, that is, of stable-dung, moderately fermented, to the thickness of about a yard; spawning it over when the strong heat has subsided, and then covering it with light earth, mushrooms may be obtained sooner than by the process I shall recommend. But if this process be more slow, it has the advantage of being more sure; and the time of reaping may be reckoned upon with equal certainty. The difference of time, from first proceeding to make the beds to gathering mushrooms, will generally be three or four weeks. By the first method, you may reap in six or eight weeks; and by the latter in ten or twelve."

Proceed thus: "After having laid a floor, as hinted at above, of ashes, stone chips, gravel, or brick-bats, so as to keep the bed quite dry, and free from under-damp, lay a course of horse-droppings six inches thick. These should be new from the stable, and must not be broke; and the drier the better. They may be collected every day, until the whole floor or sole be covered to the above thickness; but they must not be allowed to ferment or heat. In the whole process of making up, the bed should be as much exposed to the air as possible; and it should be carefully defended from wet, if out of doors. When this course is quite dry, and judged to be past a state of fermentation, cover it to the thickness of two inches with light dry earth; if sandy, so much the better.

It is immaterial whether it be rich or not: the only use of earth here being for the spawn to run and mass in. Now lay another course of droppings, and earth them over as above, when past a state of fermentation; then a third course, which in like manner earth over. This finishes the bed, which will be a very strong and productive one, if properly managed afterwards. Observe, that in forming the bed it should be a little rounded, in order that the centre may not be more wet or moist than the sides. This may be done in forming the sole or floor at first, and the bed would then be of equal strength in all parts. If it be made up against a wall in a cellar, stable, or shed, it may have a slope of a few inches from the back to the front, less or more, according to its breadth. I have sometimes been contented with two courses as above, instead of three; and, often, when materials are scarce, have made them up slighter, thus: three four-inch courses of droppings, with one inch of earth between each, and a two inch covering at top. Such a bed as this I have had produce for ten or twelve months together; but very much depends on the

state of the materials, and on the care taken in making it up; also on the after-management. The droppings of hard-fed horses only are useful. Those of horses on green food will, of themselves, produce few or no mushrooms. This I have proved in more than one instance, much to my disappointment. And I have, moreover, found, that the richer the keep of the horses, the more productive are their droppings. I have made up beds from farm-horses, fed partly on hard and partly on green food; and from carriage or saddle horses, fed entirely on corn and hay; treated them in the same way in every respect; and have found, not once, but always, those made from the latter most productive, Droppings from corn-fed horses may be procured at the public stables in towns, or at inns in the country, any time in the year; and if the supply be plentiful, a bed of considerable dimensions may be made and finished within five or six weeks. In as many more weeks, if in a stable, or dry cellar, or a flued shed, it will begin to produce, and often sooner; but if the situation of the bed be cold, it will sometimes be two or three months of producing mushrooms."

ART. 78.—*Hybrids, or Vegetable crossing.—From Loudon's Encyclopædia of Gardening.*

Observing that farmers who rear cattle improve the progeny by means of *crossing* the breed, Knight argued from analogy that the same improvement might be introduced into vegetables. His principal object was that of procuring new and improved varieties of the apple and pear to supply the place of such as had become diseased and unproductive. But as the necessary slowness of all experiments of the kind, with regard to the fruit in question, did not keep pace with the ardor of his desire to obtain information on the subject, he was induced to institute some tentative experiments upon the common pea—a plant well suited to his purpose, both from its quickness of growth, and from the many varieties in form, size, and color, which it afforded. In 1787, a degenerate sort of pea was growing in his garden, which had not recovered its former vigor even when removed to a better soil. Being thus a good subject of experiment, the male organs of a dozen of its immature blossoms were destroyed, and the female organs left entire. When the blossoms had attained their mature state, the pollen of a very large and luxuriant grey pea was introduced into the one half of them, but not into the other. The pods of both grew equally; but the seeds of the half that were unimpregnated withered away, without having augmented beyond the size to which they had attained before the blossoms expanded. The seeds of the other half were augmented and matured as in the ordinary process of impregnation; and exhibited no perceptible difference from those of other plants of the same variety; perhaps because the external covering of the seed was furnished entirely by the female. But when they were made to vegetate in the succeeding spring, the effect of the experiment was obvious. The plants rose with great luxuriance, indicating in their stem, leaves, and fruit, the influence of this artificial impregnation; the seeds produced were of a dark grey. By impregnating the flowers of this variety with the pollen of others, the color was again changed, and new varieties obtained, superior in every respect to the original on which the experiment was first made, and attaining in some cases, to a height of more than twelve feet. Knight thinks his experiments on this subject afford examples of superfœtation, a phenomenon, the existence of which has been admitted amongst animals, but of which the proof amongst vegetables is not yet quite satisfactory. Of one species of superfœtation he has certainly produced examples; that is, when, by impregnating a white pea-blossom with the pollen both of a white and grey pea, white and grey seeds were obtained. But of the other species of superfœtation, in which one seed is supposed to be the joint issue of two males, the example is not quite satisfactory. Such a production is perhaps possible, and further experiments may probably ascertain the fact; but it seems to be a matter of mere curiosity, and not apparently connected with any views of utility.

The practicability of improving the species, is rendered strikingly obvious by these experiments; and the ameliorating effect is the same whether by the male or female; as was ascertained by impregnating the largest and most luxuriant plants with the pollen of the most diminutive and dwarfish, or the contrary. By such means any number of varieties may be obtained, according to the will of the experimenter, amongst which some will no doubt be suited to all soils and situations. Knight's experiments of this kind were extended also to wheat; but not with equal success. For though some very good varieties were obtained, yet they were found not to be permanent. But the succes of his experiments on the apple-tree were equal to his hopes. This was indeed his principal object, and no means of obtaining a successful issue were left untried. The plants which were obtained in this case were found to possess the good qualities of both of the varieties employed, uniting the greatest health and luxuriance with the finest and best-flavored fruit.

Improved varieties of every fruit and esculent plants may be obtained by means of artificial impregnation, or crossing, as they were obtained in the cases already stated. Whence Knight thinks, that this promiscuous impregnation of species has been intended by nature to take place, and that it does in fact often

take place, for the purpose of correcting such accidental varieties as arise from seed, and of confining them within narrower limits. All which is thought to be countenanced from the consideration of the variety of methods which nature employs to disperse the pollen, either by the elastic spring of the anthers, the aid of the winds, or the instrumentality of insects.—But, although he admits the existence of vegetable hybrids, that is, of varieties obtained from the intermixture of different species of the same genus, yet he does not admit the existence of vegetable mules, that is, of varieties obtained from the intermixture of the species of different genera; in attempting to obtain which he could never succeed, in spite of all his efforts. Hence he suspects that where such varieties have been supposed to take place, the former must have been mistaken for the latter. It may be said, indeed, that if the case exists in the animal kingdom, why not in the vegetable kingdom? to which it is, perhaps, difficult to give a satisfactory reply.—But from the narrow limits within which this intercourse is in all cases circumscribed, it scarcely seems to have been the intention of nature that it should succeed even among animals. Salisbury is of a different opinion, and considers that new species may be created both by bees and the agency of man; and the recent experiments of Herbert, Sweet, and others seem to confirm this opinion. Sweet's experience leads him to conclude that the plants of all orders strictly natural may be reciprocally impregnated with success, and he has already, in the nursery-gardens of Messrs. Colville, produced many new geraniæ and rhoderaceæ.

A singular or anomalous effect of crossing, or extraneous impregnation, is the change sometimes undergone by the seed or fruit which is produced by the blossom impregnated. These effects are not uniform results, but they are of frequent occurrence, and have attracted notice from a very early period. John Turner observes that Theophrastus and Pliny seem to allude to it, and that the notion was entertained by Bradley, who, in his *New Improvements in Planting and Gardening*, after giving directions for fertilizing the female flowers of the hazel with the pollen of the male, says, "By this knowledge we may alter the property and taste of any fruit, by impregnating the one with the farina of another of the same class, as, for example, a codlin with a pearmain, which will occasion the codlin so impregnated to last a longer time than usual, and be of a sharper taste; or if the winter fruit should be fecundated with the dust of the summer kinds, they will decay before their usual time; and it is from this accidental coupling of the farina of one kind with the other, that in an orchard, where there is a variety of apples, even the fruit gathered from the same tree differs in its flavor and times of ripening; and, moreover, the seeds of those apples so generated, being changed by that means from their natural qualities, will produce different kinds of fruit, if they are sown." Turner, after quoting several instances, and among others, one from the *Philosophical Transactions*, "concerning the effect which the farina of the blossoms of different sorts of apples had on the fruit of a neighboring tree," states upwards of six cases of hybridised apples, that had come within his own observation, and concludes with the remark, that if there does exist in fruits such a liability to change, it will be at once evident to the intelligent cultivator how much care is requisite in growing melons, cucumbers, &c. to secure their true characters, even without referrence to saving seed for a future crop. In the same volume of the *Horticultural Transactions*, an account is given of different-colored peas being produced in the same pod by crossing the parent blossom. All these facts seem to contradict the generally received opinion, that crossing only affects the next generation; here it appears to affect the embryo offspring; and a gardener who had no keeping apples in his orchard, might communicate that quality in part to his summer fruit by borrowing the use of a neighbor's blossoms from a late variety. It is probable, however, that such counter impregnations do not take place readily; otherwise the produce of a common orchard would be an ever-varying round of monstrosities.

ART. 79.—*Summary of Intelligence, &c.*

Wisteria sinensis.—This beautiful climbing shrub, which bears a profusion of elegant flowers of the pea kind, has been introduced into England from the gardens of Consequa, a Hong merchant of Canton, with whose name our citizens are somewhat familiar from its being among the most common brands on the tea boxes annually imported from China. It is represented to be a hardy plant, capable of standing the open air in England, and that any one may raise it there by the side of his house. We have not been informed if it has yet reached this country; if it has not, we recommend that cuttings or seed should immediately be procured from England or France, if not from China, as one of the most desirable ornaments for our gardens. This plant possesses a peculiar interest for our countrymen, as the genus to which it now belongs was dedicated to Dr. C. Wister of Philadelphia. When we consider the many opportunities which are afforded by our extensive commerce, of enriching our country with the vegetable productions of foreign climates, we are astonished that our merchants, in other respects so enterprizing and patriotic, should be so neglectful of this. The introduction of those plants which are worthy of being

cultivated for their beauty, or other singular properties, might be accomplished with very little trouble to their agents or shipmasters, and incalculable benefits would by this means be conferred upon our country with little difficulty. We propose in a future number to bring this subject more immediately to the attention of our citizens, and to give some plain directions for procuring and preserving on board of vessels during transportation, seeds, roots, or other specimens of plants, which we trust will interest all classes of citizens in this desirable branch of national improvement.

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Introductory work on the Botany of Cuba.—A lady has occupied herself for several years in delineating and describing the more select vegetables growing on this interesting island. Three quarto volumes of descriptions and drawings have been sent to New-York, by Nathaniel H. Carter, Esq. corresponding secretary of our Horticultural Society, from Havana. The figures are carefully colored from the living specimens; and they appear to have been executed not with correctness merely, but elegance. The history which accompanies each is brief, but sententious and comprehensive; containing the leading facts and circumstances relative to the production. The author of this beautiful and instructive performance, is Mrs. WOLSTONCRAFT; and it may be safely said that it is fully equal to the plates which embellish the celebrated book on the insects of Surinam and the plants they feed upon, by SYBELLA MERIAN. Mrs. Wolstoncraft's work differs from the other by a total omission of the entomology; but it is incomparably more scientific. The class, order, genus and species, are disttinctly and skilfully noted, both according to the systems of Linnæus and Jussieu, with frequently the Spanish or aboriginal synonym or common name. It is intended to publish this splendid work, if an adequate subscription can be procured; and after the successful efforts in bringing forward the superb publications of WILSON and BONAPARTE on ornithology, it may be reasonably expected that such a charming addition to Botany will find abundant patronage. The attention of the fair sex is earnestly invited to this subject.

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Coffee.—The seeds of this delicious article, it has been supposed, and with reason, will not germinate unless planted very soon after ripening. This is the case with the West India varieties, but it is said that the East India and African species, preserve their vegetating power for a long time, and will produce new plants from imported seed. We have heard of instances of this kind in this country, but as we cannot vouch for the fact from our own knowledge, we would thank any of our correspondents for information on this subject.

Botanic Garden of Mexico.—This beautiful little establishment occupies one of the courts of the vice-regal palace; and, though situated in the centre of a large city, every vegetable production seems in perfect health and vigor. It affords to the stranger a most delightful retreat from the mid-day sun, and to the botanist, or admirer of the works of nature, a treat not to be met with elsewhere in New Spain, or perhaps in the world. It is handsomely laid out in the Spanish fashion, with flagged walks, bordered with elegant large pots of flowers. The walks are rendered cool by the creeping plants that are trained over them. They diverge from a large stone basin in the centre, constantly supplied by a fountain with water, which, in small rivulets, spreads itself over every part of this little paradise—imparting freshness and life to thousands of elegant plants and flowers, unknown to the eye of the European, but which here, in a climate of eternal spring, in the open air, bloom and send forth their fragrance without the assistance of man, and produce a very different appearance to the dwarfish sickly exotics of our hot-house, which, with every possible care and attention, with difficulty linger a few years without reproducing their species.—*Bullock.*

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Cucurbita succado, the vegetable marrow, was introduced within these few years from Persia, where it is called *Cicader.* "The fruit," Sabine observes, "is of a uniform pale-yellow, or light sulphur-color; when full grown, it is about nine inches in length, four inches in diameter, of an elliptic shape, the surface being rendered slightly uneven by irregular longitudinal ribs, the terminations of which uniting, form a projecting apex at the end of the fruit, which is very unusual in this tribe. It is useful for culinary purposes in every stage of its growth; when very young, it is good if fried with butter; when large or about half grown, it is excellent, either plain, boiled, or stewed with rich sauce; for either of these purposes it should be cut in slices. The flesh has a peculiar tenderness and softness, from which circumstance it has, I suppose, received its name, much resembling the buttery qualities of the *Beurre pears*, and this property remains with it till it is full grown, when it is used for pies. It is, however, in its intermediate state of growth that I conceive it likely to be most approved. Compared with all the other kinds which I had growing, its superiority was decided; there were one or two which, in cooking, might be considered nearly as good, but these are bad bearers, and more difficult to cultivate, so that I consider the vegetable marrow without a rival." The culture of this species is the same as that of the others of the melon tribe, and is equally well adapted to our climate.—*Loudon.*

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C. aurantia—the orange-fruited gourd, is a native of India, introduced in 1802, and rather more tender

than the common pompion. It has been hitherto cultivated chiefly for curiosity, and when trained spirally round a pole, or against a wall, and loaded with its yellow fruit, it is very ornamental. The fruit may be used like those of other sorts.—*ib.*

Management of Dairies in Devonshire, England.—"The milk is put into tin or earthen pans, holding about ten or twelve quarts each. The evening's meal is placed, in the following morning, and the morning's milk is placed in the afternoon, upon broad iron plates, heated by a small furnace, or otherwise over stoves, where, exposed to a gentle fire, they remain until after the whole body of cream is supposed to have formed upon the surface, which being gently removed by the edge of a spoon or ladle, small air bubbles will begin to rise, that denote the approach of a boiling heat, when the pans must be removed off the heated plate or stoves. The cream remains upon the milk in this state, until quite cold, when it may be removed into a churn, or, as is more frequently the case, into an open vessel, and there moved by a stick about a foot long, at the end of which is fixed a sort of peal, from four to six inches in diameter, and with which about 12 lbs. of butter may be separated from the butter-milk at a time.

"The butter, in both cases, is found to separate much more freely, and sooner to coagulate into a mass, than in the ordinary way, when churned from raw cream that may have been several days in gathering; at the same time, it will answer a more valuable purpose for preserving, and should be first salted in the usual way; then placed in convenient sized egg-shaped earthen crocks, and always kept covered with a pickle made strong enough to float and buoy up about half out of the brine, a new laid egg. This cream, before churning is the clouted cream so much celebrated in Devonshire.—*N. E. Farmer.*

Gooseberry Bushes.—On planting these bushes, it is advisable to trim off all the old or dry wood; by this means, they grow more luxuriant, and it is very essential to the bearing of good gooseberries that they always be kept thinned of limbs. They bear much finer fruit, and will not mildew as they do when suffered to grow to a large bush.

Cotton seed Whiskey.—This modern discovery like many others was merely accidental. The gentleman, a Mr. John Gray, of Georgia, in a careless moment, suffered his cotton seed and corn to be thrown together; and corn being scarce he threw the cotton seed with the corn into the brewery. The result, viz: the quantity of whiskey, arrested his attention. He then mixed half and half, and finally sold without any detection in the taste. He then went on to try all cotton seed, throwing a peck of meal into each hogshead to cause fermentation. This produced a vigorous extrication of gas; and a large quantity of oil, bland and of drying quality well suited for painting, was produced; and the quantity of whiskey was extraordinary from the cotton seed.—*Alabama Journal.*

Bugs in Peas.—Immediately before planting I put the peas in a tub, and pour very hot water on them, keep stirring for one or two minutes, and have cold water at hand to pour on sufficient to cover them one or two inches, leaving it not more than blood warm, for one or two hours before planting, in which time they will swell considerably, and come up much sooner; all the bugs will be destroyed, and found floating on the surface.—*N. E. Farmer.*

Agricultural Convention.—A writer in the American Farmer suggests the expediency of annual conventions of delegates from the different states, to devise plans for the general improvement of the agricultural interests of the country, and to direct the attention of the public to those products most calculated to supply the wants and promote the prosperity of the country. He recommends some time in the summer, when the citizens of the south visit the north. We should consider such a convention calculated very greatly to promote the farming interest, and to produce happy results.

The Sugar Cane.—Now, that it has been proved, beyond doubt, by *actual experiment*, that the sugar-cane can be successfully cultivated on Red river lands; the tide of public opinion is evidently setting that way. Some of our most wealthy and enterprising planters are commencing on a more extensive scale than heretofore. This augurs well for the prosperity of the country. We hope, ere long, to see many others follow their example, and we heartily wish them that success which we believe will crown their exertions.—*Alex. (Lou.) Gaz.*

ON A FADED VIOLET.

The odour from the flower is gone,
Which like thy kisses breathed on me;
The color from the flower is flown,
Which glowed of thee, and only thee!
A shrivelled, lifeless, vacant form,
It lies on my abandoned breast,
And mocks the heart which yet is warm,
With cold and silent rest.
I weep—my tears revive it not;
I sigh—it breathes no more on me!
Its mute and uncomplaining lot,
Is such as mine should be. SHELLEY.